

ORDER

6360.18

PROJECT IMPLEMENTATION PLAN
ATCBI RELOCATION PROJECT
(Beacon Leapfrog)



May 3, 1993

DEPARTMENT OF TRANSPORTATION
FEDERAL AVIATION ADMINISTRATION

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FOREWORD

This order transmits the Project Implementation Plan (PIP) for the Air Traffic Control Beacon Interrogator (ATCBI) Relocation (Beacon Leapfrog) Project. This project will relocate existing ATCBI-4 and -5 systems from newly-commissioned Mode S sites to replace aging ATCBI-3 systems; to provide ATCRBS assets to support newly established ASR-9 airport surveillance radar and ARSR-4 en route long-range radar installations; and to dispose of ATCBI-3 systems made surplus by this relocation effort. This order guides and directs implementation planning for the Beacon Leapfrog Project, identifies and describes required activities and responsibilities to ensure that the ATCBI leapfrog equipment is properly relocated for use in the National Airspace System (NAS). The order also establishes Federal Aviation Administration (FAA) program management, project implementation procedures, and defines responsibilities governing the activities of participating organizations. The program office is committed to generating updates as issues are clarified and requests comments from readers at any time.



Byron Johnson
Acting Program Manager for Secondary Radar

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CHAPTER 1. GENERAL

1. PURPOSE. This order, in establishing a project implementation plan (PIP), provides management direction and guidance for redistribution of radar beacon interrogator assets. The PIP includes the relocation of the Air Traffic Control Beacon Interrogator Systems, ATCBI-4 or -5 (henceforth referred to as ATCBI-4/5), with defruiter equipment, spares, and Radar Beacon Performance Monitors (RBPM) with Remote System Monitors (RSM), to replace ATCBI-3 systems; and to support newly established facilities, where required, and for disposal of surplus ATCBI-3 system. This order is applicable to the Eastern, Central, Great Lakes, New England, Northwest-Mountain, Southern, Southwest, and the Western-Pacific Regions of the FAA.
2. DISTRIBUTION. This order is being distributed to branch level in the offices of the Program Directors for Automation and Surveillance; Program Manager for Advanced Automation; NAS Systems Engineering; and the Associate Administrator for Contracting and Quality Assurance; to division level in the Systems Maintenance, Operational Support, Air Traffic Rules and Procedures, and Flight Standards Services; to the offices of Air Traffic Systems Management, Budget, Training and Higher Education; and Assistant Administrator for Civil Aviation Security; to branch level in regional Airway Facilities and Air Traffic divisions; to Airway Facilities sector field offices having air traffic control radar beacon systems (ATCRBS) facilities and equipment; to division level at the FAA Logistics Center and the FAA Academy at the Mike Monroney Aeronautical Center; and to the FAA Technical Center.
3. DEFINITIONS. The abbreviations and acronyms used in this order are defined in appendix 1.
4. AUTHORITY TO CHANGE THIS ORDER. The Program Manager for Secondary Radar (ANR-300) shall approve all changes to this order. Requests for changes to this PIP should be directed to the Program Manager for Secondary Radar, ANR-300, FAA Headquarters, 800 Independence Avenue S.W., Washington, DC 20591. Deviations from this order must be approved by ANR-300. The current installation schedules are contained in appendix 2. The installation dates may vary depending on changes in the schedule for commissioning of the Mode S beacon, the ARSR-4 long range radar, and the ASR-9 airport surveillance radar. Therefore, periodic updates of the appendixes may be required. The Program Manager for Secondary Radar, ANR-300, shall issue changes to the appendixes as appropriate.
- 5.-19. RESERVED.

CHAPTER 2. PROJECT OVERVIEW

20. SYNOPSIS. Major aspects of this project are:

a. The ATCBI Relocation (Leapfrog) project provides for the redistribution of radar beacon interrogator assets made available by the Mode S installation program. The project encompasses: site surveys at the donor (ATCBI-4/5) sites and receive (ATCBI-3 and new radar) sites, including contractor site engineering reports (CSER). The site surveys will include verification of equipment modifications at the donor site, inventory of the donor site ATCBI-4/5 system and associated equipment, integral system monitor (ISM), RBPM where applicable, and defruiter equipment; removal of the equipment, and support items (spares, manuals, and records) from operation at the donor site; packing; transportation; selection of ATCBI pulse rates for each new airport surveillance radar (ASR), air route surveillance radar (ARSR) and beacon-only-sites (BOS) ATCBI-4/5 site; installation at a receive site; verification of its operational integrity, testing and effecting the Operational Readiness Demonstration (ORD); and removal from operation and disposal of the displaced ATCBI-3 Beacon Interrogator System and military beacons, where applicable. This Leapfrog project will ensure that each ATCBI-4/5 beacon system is restored to full operating capability at its new location.

b. The ATCBI Leapfrog project is in conformance with Order 1000.1, Policy Statement of the Federal Aviation Administration, which is concerned with ensuring safety, promoting air commerce, supporting national security and achieving effective airspace utilization. All actions to achieve the objectives of the project are to be based on the policy contained in Order 1000.1 and in the orders and documents listed in paragraph 57.

c. Orders are the principal means by which the FAA establishes major organizational concepts and structures, assigns missions and functions, and delegates authority. Each organization is expected to assign appropriate personnel to satisfy the requirements of this order.

21. PURPOSE. This project is to provide improved maintainability and availability of secondary radar (beacon) equipment, thereby improving air traffic control (ATC) safety and capabilities.

22. HISTORY.

a. Need. The following are needs:

(1) The existing ATCBI-3 Beacon Interrogator System has deficiencies which limits its ability. The inherent limitations of ATCBI-3 Beacon Interrogator System, FA-7230, are the results of the equipment's age and antiquated electron tube design. These limitations affect its reliability, maintainability, material supportability, training support, and cost of maintenance.

(2) New airport surveillance radars (ASR-9) and new long-range radars (ARSR-4) will be installed in selected locations to improve ATC airspace coverage and will require secondary radar (beacon) support.

b. Authorization. As recommended by the ATC Advisory Committee, the FAA developed a new state-of-the-art design secondary radar system, Mode S, which will supplement and replace older generation beacon system models, ATCBI-3, ATCBI-4, and ATCBI-5. National implementation of the Mode S, scheduled for FY-93 is underway and will primarily replace many ATCBI-4/5 Beacon Interrogator Systems. As approved in the Capital Investment Plan, dated December 1990, project 44-45 provides for relocation of these ATCBI-4/5 systems to support the new primary radar (ASR and ARSR) installations and to replace many of the older ATCBI-3 systems.

c. Benefits. Replacement of the ATCBI-3 systems by relocation of the ATCBI-4/5 systems will result in enhanced reliability, maintainability, and supportability of the NAS by eliminating the excessive cost of supporting older vacuum-tube equipment. The ATCBI-3 equipment is progressively deteriorating, becoming more difficult and expensive to maintain due to frequent maintenance of parts that are no longer available due to technological obsolescence. In addition, enhanced RSM capability will be provided that will also provide further improvements in system availability, reliability, and maintainability, as well as reduction in support costs.

23.-29. RESERVED.

CHAPTER 3. PROJECT DESCRIPTION

30. FUNCTIONAL DESCRIPTION.

a. Project Concept. The Beacon Leapfrog project involves all the regions, excluding Alaska. The Beacon Leapfrog project encompasses 102 system relocations, affecting 231 ATCBI-3, -4, and -5 sites with project breakdown as follows:

102 Leapfrog donor sites, ATCBI-4/5

95 Leapfrog receive sites, ATCBI-3, new ASR-9, and ARSR-4

53 Leapfrog disposal sites, ATCBI-3

34 Mode S sites, ATCBI-3 disposal only

The beacon leapfrog project will require inter-regional cooperation and coordination of services, assets, installation activity, equipment transfers, short-term increased manpower, and equipment refurbishment requirements. Therefore, the field relocation activities will be performed through a technical service support contractor, under a national work release. The project will consist of:

(1) Donor site survey of the ATCBI-4 (FA-8470) or ATCBI-5 (FA-9403) with defruiter equipment, the Beacon Test Set (FA-9411), the RBPM, including the ISM (FA-9851) and the RSM Group (FA-9852), and the remote maintenance monitor (RMM), to determine availability, condition of assets, spares, documentation, and the status of the system's modifications, records, and handbooks. Need for replating the transmitter cavity units and/or refurbishment of other worn items will be determined at this time for inclusion in the CSER.

(2) Receive site survey of the new ASR/ARSR or of the existing radar site (ATCBI-3); the Beacon Test Set(s), FA-9411; and the RBPM, FA-9851 (ISM and RSM), to determine the scope of work and equipment requirements to successfully effect the ATCBI-4/5 installations and disposal of the ATCBI-3 systems.

NOTE: At Mode S receive sites, this Leapfrog receive site survey will address only the removal and disposition of the ATCBI-3 system, associated spares, equipment, and supporting documentation.

(3) Development of a generic CSER for a donor and a receive site, respectively, for FAA approval. Development of site specific CSER's, using the generic CSER as a basis and the

findings of the specific site survey to develop a site specific CSER from each donor and each receive site, respectively.

(4) Removal and packing the ATCBI-4/5 system, with Sola Regulators, RMM, RBPM w/RSM (where applicable), and associated equipment, with all support material, equipment, handbooks, manuals, and spares, as specified in the CSER for transport. The Beacon Test Set will not be relocated, except as specified in the CSER where there are more than one test set per site. The beacon decoders will not be removed or relocated.

(5) Transport the system/equipment via padded van to the receive site or to the technical assistance support contractor's (TSSC) depot for transmitter refurbishment per CSER requirements.

(6) The Technical Onsite Representative (TOR) will advise the regional associate program manager (RAPM) to contact the Spectrum Management Office, ASM-500, to arrange for the selection and assignment of new pulse rates for each newly established ASR, ARSR, and BOS ATCBI-4/5 site.

(7) Installation of the ATCBI-4/5 system at the receive site.

(8) System operational inspection (SOI) of the ATCBI-4/5 Beacon Interrogator System, at the receive site, test to initial tolerances, per Orders AF 6360.1B, Maintenance of Air Traffic Control Beacon Interrogator, ATCBI (except ATCBI-5), and 6360.14A, Maintenance of Air Traffic Control Beacon Interrogator Equipment, ATCBI-5, respectively.

(9) Contractor Acceptance Inspection (CAI).

(10) Limited flight inspection, as necessary.

(11) Joint Acceptance Inspection (JAI).

(12) ORD.

(13) Removal of the Leapfrog receive site and the Mode S receive site ATCBI-3 systems, and preparation of the ATCBI-3 system for disposal per FAA instructions at that time. Preparation of the surplus RBPM (ISM and RSM), FA-9852, if applicable, including documentation, for Leapfrog to another receive site or shipment to the FAA Logistics Center. The FAA TOR will provide direction and shipping instructions at that time.

b. Design Considerations. The design of the ATCBI-4/5 system is functionally similar to the ATCBI-3 system in that it performs the same ATC function and the resultant beacon information is identical. The ATCBI-4/5 systems connect to the current 5-foot open array antennas on ASR's, the Riverhead modification of the National Airway Facilities Experimental Center (NAFEC) dipole integral feed (RIVDIF) antenna on ARSR-3's, or the Mode S antenna array on ARSR-4's, and provide analog video for external processing. The ATCBI-4/5 equipment is physically similar and will occupy essentially the same space as that vacated by the ATCBI-3 equipment.

c. Reliability/Maintainability. The ATCBI-4/5 system designs represent a considerable improvement over the 1960's vintage ATCBI-3 system vacuum-tube design and components. Features of the ATCBI-4/5 system designs which enhance the reliability and maintainability include:

(1) This equipment, vintage 1970's, is designed and constructed using solid-state cards which are interchangeable and replaceable as units within each particular system.

(2) The modular design allows failures to be diagnosed at a central location.

(3) The ISM provides limited diagnostic testing of the ATCBI-4/5 system.

(4) The RMM provides limited remote diagnostic testing of the ATCBI-4/5 system, alternating current (AC) power sources, and site environmental conditions.

(5) Mean-Time-Between-Failures (MTBF) is considerably greater.

(6) Mean-Time-To-Repair (MTTR) is substantially reduced.

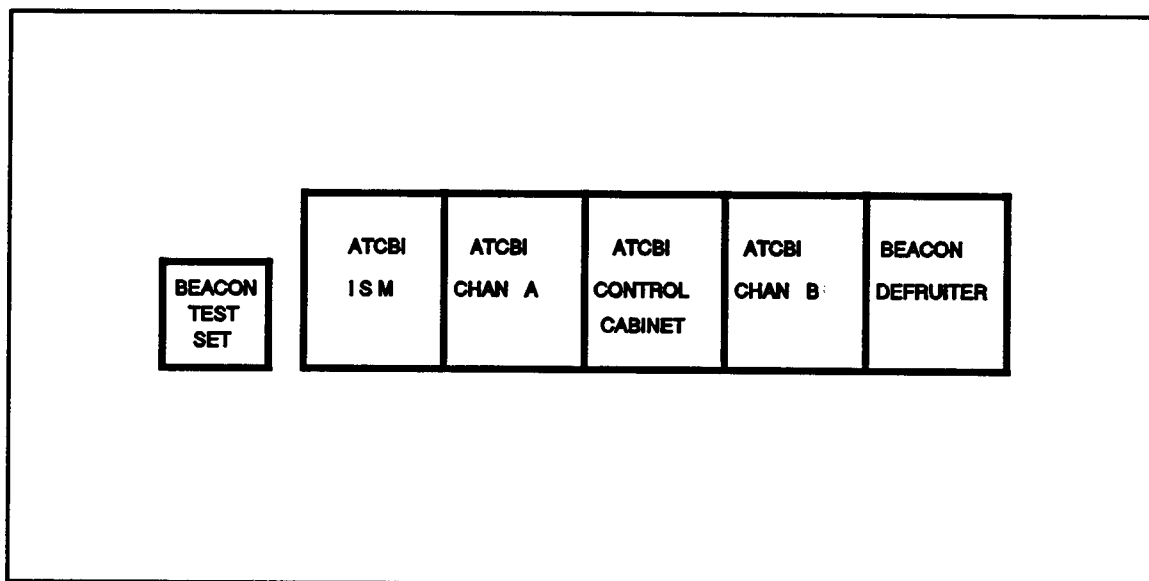
(7) Much more stable system, requiring considerably less periodic maintenance to meet established standards and tolerances.

(8) Not as old; minimal degradation of wiring, cables, and connectors/connections.

d. Supportability. A basic design consideration in the ATCBI-4/5 systems is the solid state design. This allows relatively major changes to be made within each subsystem without severe impact on the remainder of the system hardware and

facilitates the availability of spare/replacement parts, support, and test equipment required for life-cycle maintenance of the equipment.

31. PHYSICAL DESCRIPTION. The typical ATCBI-3 system for a terminal environment, figure 3-1, is comprised of four basic racks; for an en route environment, figure 3-4, three basic racks. The typical ATCBI-4 system for a terminal environment, figure 3-2, is comprised of two basic racks; for an en route environment, figure 3-5, two basic racks. The typical ATCBI-5 system for a terminal environment, figure 3-3, is comprised of three basic racks; for an en route environment, two basic racks. Some en route (unmanned) sites include an RMM. The typical ATCBI-4/5 for a BOS environment, figure 3-6, is comprised of six basic racks, including the Pulse Shaper, common digitizer (CD), and CD display racks, remote maintenance monitor junction box (RMMJB), personal computer (PC), PC monitor, and printer. Each basic system includes control boxes and numerous interconnecting cables. Components dimensions are included with the typical ATCBI configurations noted in figures 3-1 through 3-6.

FIGURE 3-1. ATCBI-3 EQUIPMENT, TERMINAL SITE

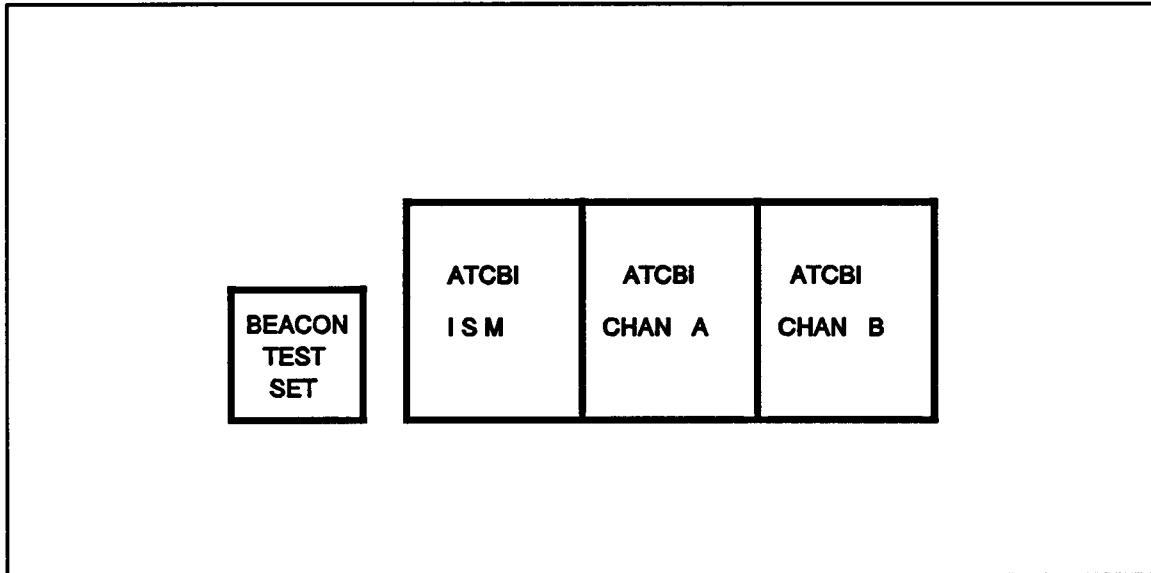
<u>Unit</u>	<u>Dimensions</u>	<u>Weight</u>
Channel A, Tx/Rx Rack	19 3/4"W x 22" D x 76" H	235 lbs
Channel B, Tx/Rx Rack	19 3/4"W x 22" D x 76" H	235 lbs
ATCBI Control Cabinet	22"W x 22 5/8"D x 76"H	235 lbs
Defruiter Rack		
MX-8757/UPX 2-chan)	22"W x 22 5/8"D x 76"H	235 lbs
ISM Rack, 2-channels#	22"W x 22 5/8"D x 76"H	235 lbs
Sola AC Regs###, 2 ea	6"W x 15"D x 6"H	25 lbs ea##

Not at all sites

Estimated

One Sola regulator normally mounted atop each Tx/Rx rack, however, sometimes mounted on the building wall

NOTE: May not be used at all donor sites

FIGURE 3-2. ATCBI-4 EQUIPMENT, TERMINAL SITE

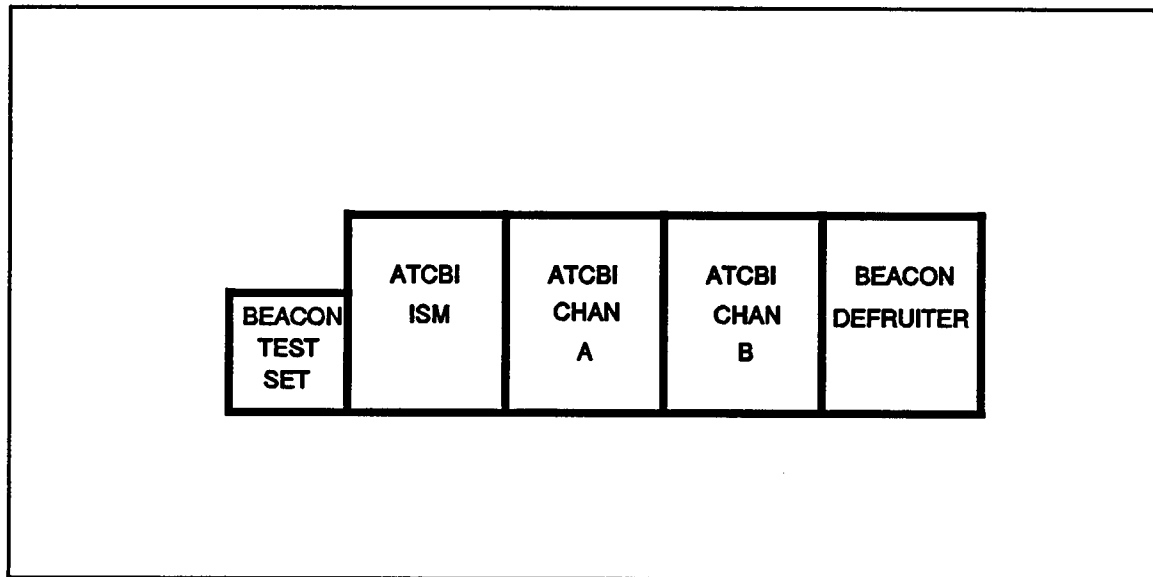
<u>Unit</u>	<u>Dimensions</u>	<u>Weight</u>
Channel A, Tx/Rx Rack#	19 3/4"w x 22" D x 76" H	235 lbs
Channel B, Tx/Rx Rack#	19 3/4"w x 22" D x 76" H	235 lbs
ISM Rack, 2-channels	22"W x 22 5/8"D x 76"H	235 lbs
Sola AC Regs###, 2 ea	6"W x 15"D x 6"H	25 lbs ea##

Includes one MX-8757/UPX Defruiter Unit in each channel

Estimated

One Sola regulator normally mounted atop each Tx/Rx rack, however, sometimes mounted on the building wall

NOTE: May not be used at all donor sites

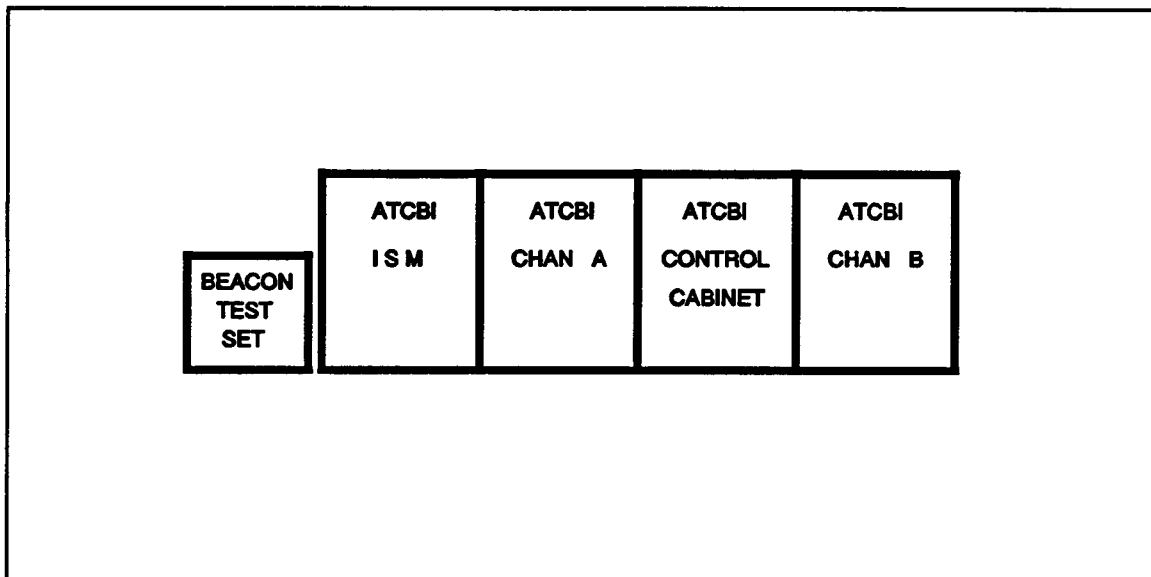
FIGURE 3-3. ATCBI-5 EQUIPMENT, TERMINAL SITE

<u>Unit</u>	<u>Dimensions</u>	<u>Weight</u>
Channel A, Tx/Rx Rack	19 3/4"W x 22" D x 76" H	235 lbs
Channel B, Tx/Rx Rack	19 3/4"W x 22" D x 76" H	235 lbs
Defruiter Rack, MX-8757/UPX, 2-chan	22"W x 22 5/8"D x 76"H	235 lbs
ISM Rack, 2-chan	22"W x 22 5/8"D x 76"H	235 lbs
Sola AC Regs##, 2 ea	6"W x 15"D x 6"H	25 lbs ea#

Estimated

One Sola regulator normally mounted atop each Tx/Rx rack,
however, sometimes mounted on the building wall

NOTE: May not be used at all donor sites

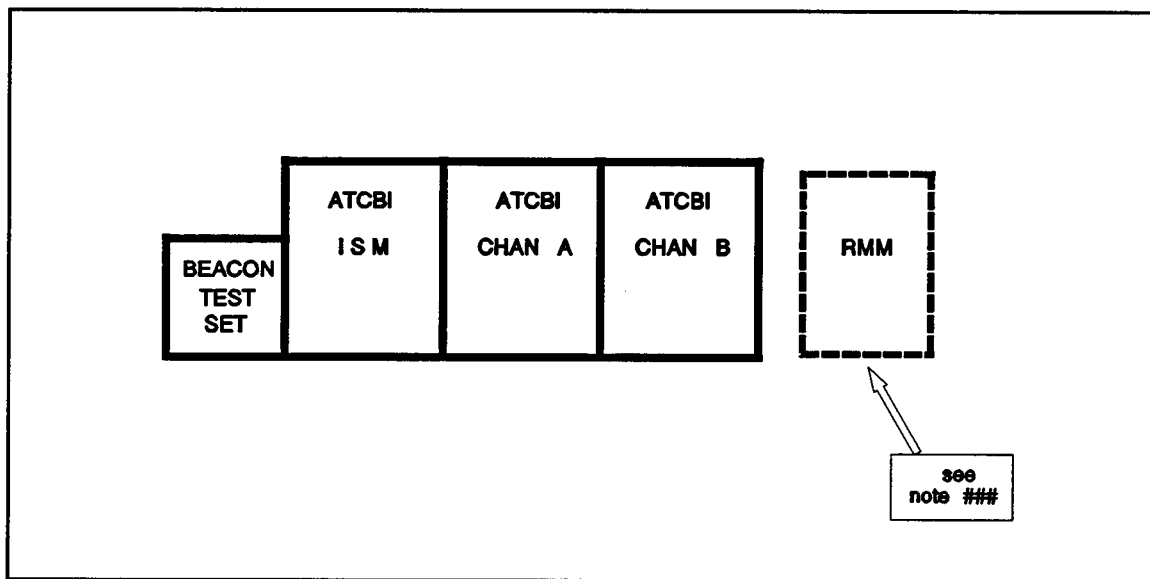
FIGURE 3-4. ATCBI-3 EQUIPMENT, EN ROUTE SITE

<u>Unit</u>	<u>Dimensions</u>	<u>Weight</u>
Channel A, Tx/Rx Rack	19 3/4"W x 22" D x 76" H	235 lbs
Channel B, Tx/Rx Rack	19 3/4"W x 22" D x 76" H	235 lbs
ATCBI Control Cabinet	22"W x 22 5/8"D x 76"H	235 lbs
ISM Rack, 2-channels	22"W x 22 5/8"D x 76"H	235 lbs
Sola AC Regs##, 2 ea	6"W x 15"D x 6"H	25 lbs ea#

Estimated

One Sola regulator normally mounted atop each Tx/Rx rack, however, sometimes mounted on the building wall

NOTE: May not be used at all donor sites

FIGURE 3-5. ATCBI-4/5 EQUIPMENT, EN ROUTE SITE

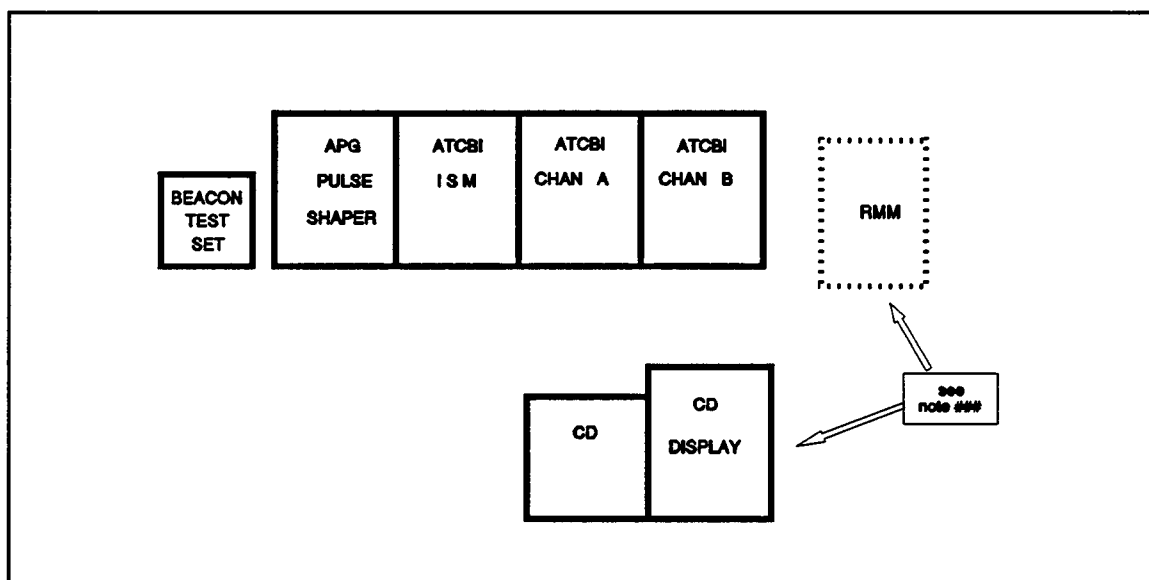
<u>Unit</u>	<u>Dimensions</u>	<u>Weight</u>
Channel A, Tx/Rx Rack	19 3/4"W x 22" D x 76" H	235 lbs
Channel B, Tx/Rx Rack	19 3/4"W x 22" D x 76" H	235 lbs
ISM Rack, 2-channels	22" W x 22 5/8"D x 76"H	235 lbs
RMM Rack, 1 ea ###	24" W x 31" D x 78" H	270 lbs
RMM Junction Box, 1 ea	30" W x 10" D x 36" H	160 lbs
RMM Data Terminal### (CPU, PC, Monitor, and Printer)		100 lbs#
Sola AC Regs##, 2 ea	6"W x 15"D x 6"H	25 lbs ea#

Estimated

One Sola regulator normally mounted atop each Tx/Rx rack, however, sometimes mounted on the building wall

NOTE: May not be used at all donor sites

Not located at all sites

FIGURE 3-6. ATCBI-4/5 EQUIPMENT, BOS SITE

<u>Unit</u>	<u>Dimensions</u>	<u>Weight</u>
Channel A, Tx/Rx Rack	19 3/4"W x 22" D x 76" H	235 lbs
Channel B, Tx/Rx Rack	19 3/4"W x 22" D x 76" H	235 lbs
ISM Rack, 2-channels	22"W x 22 5/8"D x 76"H	235 lbs
RMM Rack, 1 ea ###	24" W x 31" D x 78" H	270 lbs
RMM Junction Box, 1 ea	30" W x 10" D x 36" H	160 lbs
RMM Data Terminal### (CPU, PC, Monitor, and Printer)		100 lbs#
Common Digitizer	(#)22" W x 24" D x 78" H	300 lbs#
CD Display	(#)22" W x 36" D x 78" H	200 lbs#
Sola AC Regs##, 2 ea	6"W x 15"D x 6"H	25 lbs ea#

Estimated

One Sola regulator normally mounted atop each Tx/Rx rack, however, sometimes mounted on the building wall

NOTE: May not be used at all donor sites

Not located at all sites

32. SYSTEM REQUIREMENTS. The ATCBI-3, -4, and -5 systems requirements for floor space and floor loading are detailed in figures 3-1 through 3-6. Site specific requirements will be detailed in the receive site CSER.

a. The AC primary power source is adequate in most facilities; however, in some instances, additional circuit breakers may be required, for connection/operation of both systems simultaneously during installation and testing. The existing circuit breakers may need to be down-sized, to provide proper protection to the equipment. Site specific requirements will be detailed in the receive site CSER. The TOR will coordinate the activity for TSSC, who will perform the corrective tasks, if necessary.

b. Orientation of the ATCBI-4 system, and associated racks, in a typical configuration is shown in Order AF 6360.1B and figures 3-2, 3-5, and 3-6.

c. Orientation of the ATCBI-5 system, and associated racks, in a typical configuration is shown in Order 6360.14A and figure 3-3, 3-5, and 3-6.

d. Ventilation for the ATCBI-3, -4, or -5 is internal blower design with exhaust air into the equipment room.

33. INTERFACES.

a. Onsite. The onsite interfaces to the ATCBI-4/5 system include the antenna drive system, RF cables to secondary radar (beacon) antenna mounted on the primary radar antenna, remote control wiring, primary AC power system, remoting subsystem, system timing units, rotary joint azimuth data generation units, defruiter equipment, ASR-9, ARSR-4, ARSR-3, ISM, common digitizer, RPBM (ISM and RSM), and/or RMM (MODEM) equipment.

b. Terminal Interface. The remote interface for terminal facilities is: remote (landline) cables for system control and RMM reporting, communication narrow-band landlines, microwave data links or MODEM, or combination thereof.

c. Remote Interface. The remote interface for en route facilities is: remote (landline) cables, communication narrow-band landlines, microwave data links, remote communications link (RCL), MODEM, control box, or a combination thereof.

d. Equipment Interface Problems. Even though the ATCBI-4/5 systems are quite similar in design characteristics,

certain system characteristics exist which cause difficulties when interface is attempted using certain combinations of the systems. Therefore, to avoid potential problems, it should be remembered during this project, that:

(1) Due to higher transmitter RF power output requirements, the ATCBI-5 should be utilized at ARSR sites;

(2) Due to differences in design characteristics, the ATCBI-4 will not interface properly with the ARSR-4 and therefore will not be collocated with the ARSR-4.

(3) Due to certification requirements, the ISM will be installed, connected, tested, and used in commissioning the ATCBI at newly established ARSR-4 sites.

34.-39. RESERVED.

CHAPTER 4. PROJECT SCHEDULE AND STATUS

40. PROJECT SCHEDULES AND GENERAL STATUS.

a. Project Approval. The ATCBI-4/5 Leapfrog Project was approved in the 1990 Capital Investment Plan, as Project 44-45, Air Traffic Control Radar Beacon System (ATCRBS) Relocation.

b. Procurement. Limited outside procurement, other than miscellaneous installation hardware, cable trays, wiring, etc., a limited quantity of Beacon Test Sets and RF antenna cable may be required, to complete this project. Specific requirements will be determined during the site survey and detailed in the CSER. The Beacon Test Set and/or RF antenna cables, if required, will be Government furnished equipment/Government furnished material (GFE/GFM), respectively.

c. Support Requirements. The responsibility for status assurance for modifications and documentation are under the cognizance of the program manager (PM).

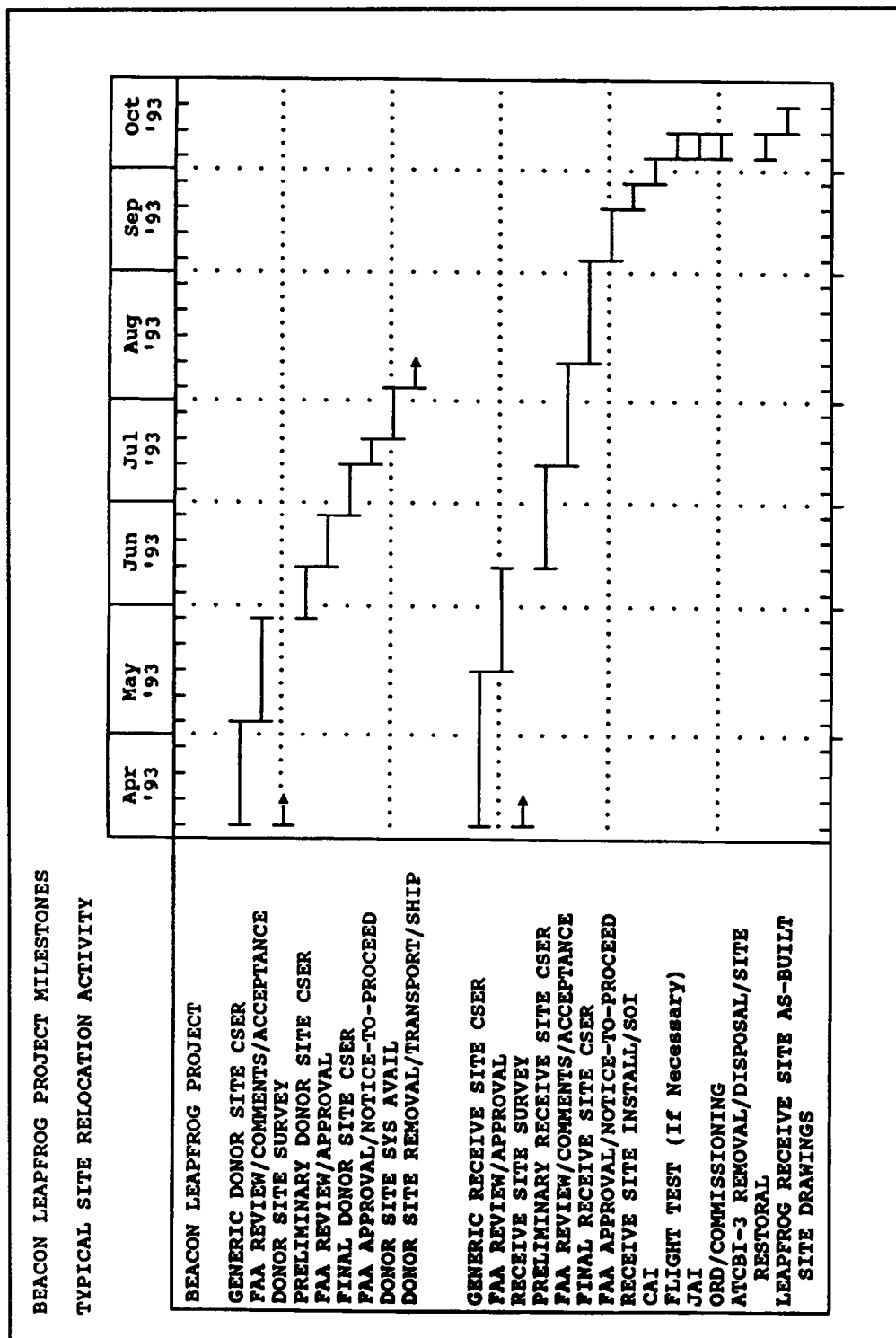
d. Project Activity Schedules. Commencement of the Leapfrog project installation is dependent on the completion of the respective site survey, approval of the CSER, issuance of the Notice-to-Proceed (NTP), the donor site Mode S commissioning, and/or new ASR/ARSR installation, thereby releasing the ATCBI-4/5 systems to the Leapfrog Project. Within 10 days after the ORD of the Mode S System, the donor site Airway Facilities Office (AF) will notify the assigned TOR that the equipment is ready for SOI and removal. The first Leapfrog installation was tentatively scheduled to begin in April, 1993 with commissioning scheduled for early May 1993, with installations/commissionings schedule ranging up to four sites per month, thereafter.

41. MILESTONE SCHEDULE SUMMARY.

a. General. All phases of the Beacon Leapfrog Project will be coordinated with the regional TOR by the installation contractor. See figure 4-1, for project milestone schedule. The project relocation plan and detailed procedures will be outlined in a CSER based on findings of the site survey.

b. Donor Site Survey. The donor site survey, the first step of the field equipment relocation process, will be performed by the contractor at least 120 days prior to commencement of the equipment relocation.

FIGURE 4-1. PROJECT MILESTONE SCHEDULE



c. Receive Site Survey. The receive site survey is the first step of the field reinstallation process, will be performed by the contractor at least 120 days prior to commencement of the equipment relocation.

d. Receive Site Pulse Rate Selection. The Spectrum Management Office will be contacted at the time of the Receive Site Survey to arrange for the transfer or reassignment of the pulse rate for the ATCBI-4/5 and frequencies for other associated RF devices, as required. Any required pulse rate and frequency changes will be incorporated in the final receive site CSER.

e. Preliminary Donor Site CSER. The preliminary donor site CSER (de-installation plan and relocation procedures) will be developed by the contractor as a result of the donor site survey and submitted for FAA approval at least 90 days prior to commencement of the equipment relocation.

f. Preliminary Receive Site CSER. The preliminary receive site CSER will be developed by the contractor as a result of the receive site survey and submitted for FAA approval at least 90 days prior to commencement of the equipment relocation.

g. Final Donor Site CSER. A final donor site CSER will be developed by the contractor by revising the preliminary donor site CSER to reflect the revisions per the FAA review, comments, and acceptance of the preliminary donor site CSER. The final donor site CSER will be submitted to FAA at least 45 days prior to commencement of the equipment relocation.

h. Final Receive Site CSER. A final receive site CSER will be developed by the contractor by revising the preliminary receive site CSER to reflect the results of the FAA review, comments, and acceptance of the preliminary receive site CSER. The final donor site CSER will be submitted to FAA at least 45 days prior to commencement of the equipment relocation.

i. Notice-To-Proceed (NTP). The NTP will be issued within 15 days after date of receipt of the final CSER by the RAPM, provided FAA determines there is no conflict of commissioning schedules with that of the Mode S, ASR-9, and ARSR-4 systems. The RAPM will issue the NTP to the TOR who will present it TSSC.

j. System Availability. Availability of the ATCBI-4/5 systems is dependent primarily on Mode S commissioning, new site installations (ARSR-4 and ASR-9), modifications status, environmental conditions (adverse weather sites) and ATC requirements.

k. System Removal. Leapfrog system removal is the second step of the field equipment relocation and will be considered complete when all system equipment, system spares, instruction manuals, handbooks, and modification records are collected, inventoried, packed, and ready for transport to the receive site. The Leapfrog ATCBI-4/5 system and equipment will be released for testing and removal within 10 days after the commissioning date of the Mode S. After the Leapfrog equipment removal, site clean-up and restoration (paint/wall/floor mars, tile replacement, cable and wiring removal, etc.) will be completed by TSSC prior to leaving the site.

l. System Installation. The ATCBI-4/5 system, and associated equipment required for commissioning, will be installed, tested (SOI), and readied for operation within 5 workdays, at existing sites (including removal and disposal of the ATCBI-3) or 10 workdays at newly established sites, after receipt of the equipment at the receive site. These tasks will be accomplished as soon as practical after receipt of the NTP from the TOR. The previously selected pulse rate, if required for the ATCBI-4/5 receive sites, will be set in at this time. The ISM/RSM equipment is not normally required for ATCRBS commissioning and therefore, will not be installed. The leapfrog ISM will be set in its normal operating position only, except at ARSR-4 sites. TSSC will install and connect the ISM equipment for use in commissioning ARSR-4 sites. The leapfrog RSM equipment will be stored at the receive sites.

m. Contractor Acceptance Inspection (CAI). The CAI is the last step of the installation process preparatory to the flight inspection, if required, and the JAI. The CAI will be performed by TSSC, witnessed by the TO, or TOR, within 14 days after equipment arrival at the receive site and receipt of the NTP.

n. Flight Inspection. The flight inspection of the Leapfrog system will be performed by FAA as required by the Operational Support Service (AOS) and region, augmented by the use of automated tools as FAA may deem adequate at that time.

o. Joint Acceptance Inspection (JAI). The JAI will be the final step of the installation process. The JAI will be performed by the TO, or TOR, with AF, Air Traffic (AT) and contractor support within 21 days after arrival of equipment at the receive site.

p. Training. ATCBI-4/5 training requirements will be determined by the AF sector and ASM-250 with course(s) availability availability being arranged with FAA Training Academy (AMA) to ensure completion of training requirements prior

to the Leapfrog equipment installation to obviate delays in commissioning.

q. Site Spares. Available donor site spares will be leapfrogged along with the ATCBI equipment to the receive site. However, other provisioning may be FAA or contractor supported.

r. Test Equipment. Beacon Test Sets will not be relocated with the beacon Leapfrog equipment. Beacon test sets will be provided to newly established sites (ASR and ARSR), as necessary.

s. Operational Readiness Demonstration (ORD). The ORD/ commissioning will be performed, as the final step of the operational testing and evaluation (OT&E) process, and conducted, after the JAI, by AF and AT within 60 days after equipment arrival at the site.

t. ATCBI-3 Decommissioning and Removal. The ATCBI-3 will be decommissioned by FAA immediately following the commissioning of the ATCBI-4/5 or the Mode S system. At the ATCBI-4/5 Leapfrog sites, FAA will then replace any temporary AC power connections, along with the temporary RF antenna cable/ switch to the ATCBI-4/5, with permanent cable(s) provided by TSSC. This disconnection will decommission the ATCBI-3. As soon as work schedules permit, TSSC will then disconnect the ATCBI-3 systems, at the Leapfrog and Mode S sites, removing all **non-used** RF antenna cables to the antenna, power cables, control cables/wires and **non-used** cable ducts/trays, idled by this installation between the ATCBI-3 equipment, the radar cable junction box (RCJB), and the power distribution panel. The ATCBI-3 system will then be removed and prepared for disposal per FAA instructions at that time.

u. Detailed Schedules. The detailed site schedules applicable to the ATCBI-4/5 beacon system installations have been consolidated in appendix 2. Updates to this appendix will be issued to reflect changes. Revisions necessary to meet changing requirements or priorities will be coordinated with cognizant region(s), AT, AF, and contractor representatives prior to issuance.

v. Final Drawings. The TSSC will prepare final "As-Built" drawings in D size and on Magnetic tape in the Auto-Trol format, per standard FAA-STD-002, Facilities Engineering Drawing Preparation, for distribution to each respective region.

42. INTERDEPENDENCIES AND SEQUENCE. Implementation of the ATCBI Leapfrog Systems will be dependent on:

a. Successful and timely commissioning of the Mode S Beacon System, thereby releasing ATCBI-4/5 systems to the Leapfrog Project, delivery and installation of new ASR-9 and ARSR-4 systems for new sites, ancillary equipment such as beacon antenna, provisioning of spares, and test equipment.

b. Prior installation of interface systems and equipment, such as primary/secondary radar antennas, rotary joint, equipment shelter, radome, standby engine/generator (E/G), installation of primary AC power and remote subsystems, and required telecommunications equipment and circuits.

43. New Telecommunications Requirements. The ATCBI-4 and -5 systems relocated to new sites not replacing existing ATCBI-3 systems will require new interfacility telecommunications services for operation. Telecommunications requirements should be directed to the Telecommunications Management and Operations (TM&O) Division, ASM-300, which manages FAA telecommunications at the national and regional levels. ASM-300 will determine the general requirements and coordinate with the regional TM&O organizations to implement the networks and circuits required.

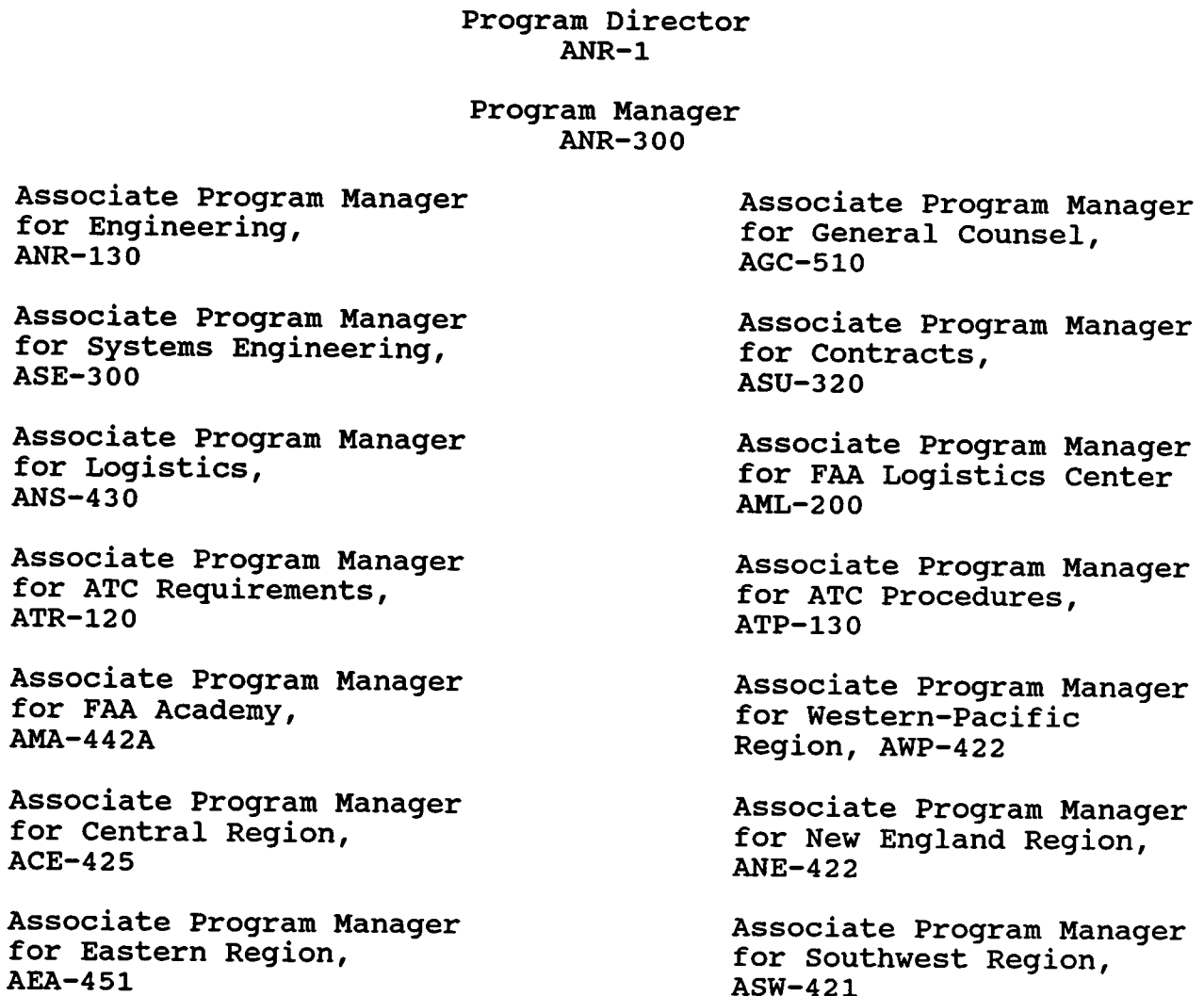
44.-49 RESERVED.

CHAPTER 5. PROJECT MANAGEMENT

50. PROJECT MANAGEMENT, GENERAL.

a. Program Structure/Administration. The beacon Leapfrog project is under the auspices of the Program Director for Surveillance, ANR-1. The Beacon Leapfrog PM is ANR-300 and has first line responsibility for the operational evaluation, removal, relocation/installation, and operational testing of the end product of the beacon Leapfrog project. The PM keeps the Administrator informed on project status, in accordance with Order 1810.1F, Major Acquisitions. See figure 5-1 beacon Leapfrog project management structure.

FIGURE 5-1. BEACON LEAPFROG PROJECT MANAGEMENT STRUCTURE



BEACON LEAPFROG PROJECT MANAGEMENT STRUCTURE, (Cont')

Associate Program Manager
for Northwest Mountain Region,
ANM-422

Associate Program Manager
for Great Lakes Region,
AGL-421

Associate Program Manager
for Southern Region,
ASO-422

(1) Matrix Management. Matrix management will be used by the PM, who is the single focal point for all program activities, to monitor such specific areas as contractor performance and project implementation. The PM will utilize personnel from various FAA organizations to support program requirements, within the guidelines provided by FAA policies, procedures, and directives. While there will be distinct lines of authority with regard to achieving program goals, informal communication and support among responsible program personnel will play a vital part in achieving the successful implementation of the Beacon Leapfrog Program.

(2) PM/Associate Program Manager Concept. Supporting the PM are associate program managers. These will include headquarters' associate program managers from the various principal participating FAA organizations and the eight participating regions, excluding Alaska. The associate program managers serve as focal points in their respective spheres for the implementation of the beacon Leapfrog project. Each associate program manager is responsible for coordinating and reporting on all areas of responsibility assigned to him/her by the PM and on those efforts associated with that organization and/or region's stated mission. Major areas of concern to the associate program managers include planning, budgeting, and implementation.

(3) Other Agencies and Contractor Personnel. Where appropriate, the beacon Leapfrog project utilizes the services of other agencies and contractor personnel. The personnel supporting the beacon Leapfrog project require the cooperation and assistance of the FAA to perform their services. Appendix 3 lists the outside contractors providing technical support to the project.

b. Key Individuals. Key individuals associated with the beacon Leapfrog project are as follows:

(1) PM. The Program Director for Surveillance (ANR-1) has designated ANR-300 to serve as PM for the beacon Leapfrog project.

(2) Matrix Team Associate Program Managers. Associate Program Managers have been assigned as follows:

(a) Associate Program Manager for the FAA Academy (APMA), from the Radar Branch, AMA-442.

(b) Associate Program Manager for the FAA Logistics Center (APMD), from the NAILS Management Division, AML-200.

(c) Associate Program Manager for Engineering (APME), from the Mode S Branch, ANR-130.

(d) Associate Program Manager for General Counsel (APMGC), from the Contracts and Litigation Branch, AGC-510.

(e) Associate Program Manager for Logistics (APML), from the NAILS Implementation Branch, ANS-430.

(f) Associate Program Manager for Operational Support (APMOS), from the ATC Surveillance Engineering and Data Analysis Branch, AOS-320.

(g) Associate Program Manager for Air Traffic Procedures (APMP), from the En Route Procedures Branch, ATP-130.

(h) Associate Program Managers for ATC Requirements (APMR), from the Air Traffic Plans and Requirements Service, Terminal Branch, ATR-120.

(i) Associate Program Manager for Systems Engineering (APMSE), from the Navigation/Landing/Surveillance Division, ASE-300.

(j) Associate Program Manager for Contracts (APMSU), from the Surveillance Branch, ASU-320.

(3) Regional Associate Program Managers. Associate program managers have been assigned as follows:

(a) Associate Program Manager for the Central Region (APMCE), from the Airway Facilities Division, ACE-425.

(b) Associate Program Manager for the Eastern Region (APMEA), from the Airway Facilities Division, AEA-451.

(c) Associate Program Manager for the Great Lakes Region (APMGL), from the Airway Facilities Division, AGL-421.

(d) Associate Program Manager for the New England Region (APMNE), from the Airway Facilities Division, ANE-422.

(e) Associate Program Manager for the Northwest Mountain Region (APMNM), from the Airway Facilities Division, ANM-422.

(f) Associate Program Manager for the Southern Region (APMSO), from the Airway Facilities Division, ASO-422.

(g) Associate Program Manager for the Southwest Region (APMSW), from the Airway Facilities Division, ASW-421.

(h) Associate Program Manager for the Western-Pacific Region (APMWP), from the Airway Facilities Division, AWP-422.

(4) Other.

(a) The technical officer (TO), appointed by the APME.

(b) The TOR, designated by the regional AF division manager and appointed by the APME or the TO.

c. Responsibilities.

(1) PM. The following are responsibilities of the PM.

(a) Has the first line responsibility for the removal, relocation, reinstallation, testing, evaluation, and placement of the ATCBI-4/5 Leapfrog system into the NAS and removal/disposition of the ATCBI-3 system and related equipment which was decommissioned from service.

(b) Develops the program master plan, the management plan, and the PIP.

(c) Develops the program and budget justification documentation.

(d) Controls program funds within approved appropriation levels.

(e) Manages the program within approved cost, scheduling, and technical baseline.

(f) Informs upper level management of program status, issues, and accomplishments.

(g) Serves as the agency spokesperson, advocate, and focal point for the program.

(h) Determines deployment strategies in coordination with applicable organizations.

(i) Establishes the PM team structure and guidelines to ensure that such program activities as plans, baseline, travel, and correspondence are properly coordinated and controlled.

(j) Obtains all necessary program approvals.

(k) Develops and maintains agreements with matrix organizations, and formally documents them in program directives.

(l) Holds associate program managers accountable for accomplishments in accordance with directive agreement.

(m) Provides inputs on core associate program managers' performance evaluation for associate program managers assigned by program directives and others, as appropriate.

(n) Ensures the quality of all PM documentation.

(o) Provides program guidance to all offices, services, the Aeronautical Center, and the regions.

(p) Ensures the timely implementation of the ATCBI-4/5 system into the operational environment in a manner that minimizes costs and optimize system performance.

(q) Identifies ANR requirements and staffs the offices of appropriate services as necessary to support the relocation, installation, test, commissioning, decommissioning, and disposal efforts of the Beacon Leapfrog Program.

(r) Prepares, analyzes, and distributes scheduling information to regions and the Aeronautical Center.

(s) Ensures the baseline configuration for the beacon Leapfrog system and provides suitable documentation to appropriate offices upon transition to operational status.

(t) Provides planning and guidance information to all activities which interface with the ATCBI-4/5 system for the timely implementation of support activity.

(u) Provides site preparation requirements to the regions for monitoring the accomplishment of site activities leading to completion and acceptance of the site installations.

(v) Is responsible for field ORD.

(w) Provides technical oversight and/or direction to the contractor in the equipment removal, transportation, installation, testing, and documentation for the Beacon Leapfrog system.

(x) Coordinates with the region(s) for scheduling and monitoring the removal, reinstallation, dismantling, and/or disposal of equipment in accordance with Order 4800.2A, Utilization and Disposal of Excess and Surplus Property.

(y) Ensures the availability of all hardware interfaces required for the ATCBI-4/5 system implementation.

(z) Ensures the availability of all required funding and maintains the contract within budget limitations.

(aa) Determines the distribution of all ATCBI-4/5 Leapfrog documentation, both in-house and contractual.

(bb) Ensures that logistic support requirements in coordination with the FAA Logistics Center are planned, funded, and delivered in time to permit effective operational use of the ATCBI-4/5 equipment.

(cc) Budgets and funds for all National Airspace Integrated Logistics Support (NAILS) requirements.

(dd) Funds, supports, and co-chairs the NAILS Management Team (NAILSMT).

(ee) Provides necessary input and assistance to the Office of Training and Higher Education (AHT) for the training of maintenance personnel.

(ff) Assists in, and ensures the development of, system operational changeover plans with Air Traffic Plans and Requirement Service (ATR) and the regions.

(gg) Review and approve the generic donor and receive sites CSER's.

(2) APMA. The primary project responsibilities of the APMA is coordination of all FAA training activities, both at the FAA Academy and at any other required locations.

(3) APMD. The following are responsibilities of the APMD:

(a) Coordinates all provisioning and depot level logistics support activities.

(b) Manages all depot level maintenance, whether performed by the FAA or the contractor.

(4) APME. The following are responsibilities of the APME:

(a) Serves as TO or the Alternate Technical Officer (ATO), or delegates the authority, as appropriate.

(b) As TO, or ATO, is responsible for all aspects of field implementation and will maintain close liaison with the contractor's installation teams in the regions by providing technical guidance and direction within the scope of the contract.

(c) Selects and supervises staff personnel, and assigns the technical staff to the project, as required.

(d) Provides for the management and accomplishment of program directives.

(e) Ensures the technical integrity and quality of the project.

(f) Manages the workload and ensures workforce effectiveness.

(g) Serves as the first-line technical advocate for the program.

(5) APMGC. The following are responsibilities of the APMGC:

(a) Serves as legal counselor to the program team and provides advice on legal questions and business judgments.

(b) Provides input to contractual documents to ensure clarity and proper legal defense.

(c) Assesses legal risks and recommends alternative courses of action to accomplish program objectives.

(d) Represents the PM on legal issues with contractors.

(6) APML. The following are responsibilities of the APML:

(a) Advises the PM on all areas of NAILS.

(b) Establishes and co-chairs the NAILSMT.

(c) Coordinates all Integrated Logistics Support (ILS) activities of support organizations, and ensures that each support organization designates an element manager to the NAILSMT.

(7) APMOS. The following are responsibilities of the APMOS:

(a) Provides coordination with regions regarding onsite preparation and shakedown testing prior to commissioning.

(b) Coordinates with other PM's within the Systems Maintenance Service (ASM) as required.

(8) APMP. The Associate Program Manager for ATC Procedures is responsible for determining and publishing the AT procedures and regulations appropriate for supporting the program.

(9) APMR. The following are responsibilities of the APMR:

(a) Evaluates questions concerning air traffic (AT) requirements.

(b) Supports operational tests and evaluation (OT&E).

(c) Provides inputs on acquisition strategies to the PM to ensure that the ATCBI-4/5 system installation meets AT requirements.

(d) Provides coordination with AT regional and field elements.

(e) Supports justification of funding.

(10) TO. The following are responsibilities of the TO.

(a) Responsible for all technical aspects of the installation, testing, and management of the Beacon Leapfrog project installations and commissioning.

(b) Responsible for all aspects of field implementation, maintaining close liaison with the TOR and the contractor's installation teams in the regions by providing technical guidance and direction within the scope of the contract.

(11) Associate Program Managers for Regions (RAPM). The following are responsibilities of the RAPM for each region:

(a) Planning.

1 Coordinates (and develops, if necessary) regional and facility implementation and transition plans.

2 Assesses project interdependencies and coordination requirements.

3 Facilitates the development and coordination of training requirements.

4 Chairs planning briefings, meetings, and prepares reports as necessary.

5 Provides regional input to headquarters PM's for planning purposes.

6 Represents the region in program-level national workshops and meetings.

7 Coordinates and participates in engineering studies, requirement reviews, site surveys, pulse rate selections, and site selections, as necessary, to determine specific regional requirements and scope of work for each individual site.

8 Ensures that funding is adequate, that job order numbers are assigned, and that the scope of work for each individual project is properly defined and disseminated.

9 Participates in NAILSMT meetings to ensure that logistics requirements meet region's needs.

10 Review and approve the site specific donor and receive site CSER's.

(b) Budgeting.

1 Participates in the development and annual revision of items for the Capital Investment Plan.

2 Participates in the review and coordination of the national Call for Estimates (CAE), and participates in the development of the regional CAE.

3 Provides regional input to headquarters' PM's for budgetary purposes.

4 Ensures that valid and timely cost estimates are developed that address total regional requirements.

5 Ensures that budget submissions are well-justified and contain complete material lists.

6 Maintains awareness of budget items and the status of validated versus non-validated projects.

(c) Implementation.

1 Establishes working relationship with headquarters' PM's.

2 Serves as a regional focal point for the facilities and equipment (F&E) projects, including such areas as planning, budgeting, funding, supply support, training, test equipment, deployment readiness, installation, capitalization, maintenance, and operation.

3 Identifies the scope of the project's regional and national contractor responsibilities.

4 Chairs progress briefings, meetings, and prepares reports as necessary.

5 Coordinates requirements for logistics support, leased services, real estate, and utilities.

6 Represents the region in program-level national workshops and meetings.

7 Reviews and validates project authorizations.

8 Develops a generic Regional Project Management System (RPMS) network for each project, populates, and maintains each network in accordance with the best available anticipated equipment delivery date.

9 Coordinates all implementation activities based on the PIP.

10 Tracks funding obligations versus project accomplishments through the RPMS, identify funding shortfalls and surpluses and recommends solutions.

11 Provides cost estimates and justifications as necessary for submission with the quarterly fiscal summary review and request for funding adjustments.

12 Tracks and reports on milestone accomplishment for each individual project, including such areas as project authorization, equipment availability, site preparation, initial operating capability, and facility commissioning and capitalization.

13 Facilitates resolution of problems and develops recommendations for the Facilities Review Board (FRB).

14 Reviews JAI reports and facilitates the resolution and closing of exceptions.

15 At the conclusion of major projects, chairs a critique to identify problems that can be avoided in future programs, and documents and implements needed changes.

(12) TOR. The following are responsibilities of the TOR:

(a) The TOR is responsible for coordination of all contractor site-related activity.

(b) Ensures that activities required in support of the beacon Leapfrog installation and testing are accomplished in an orderly manner.

(c) Communication and coordination in support of the TO.

(d) Submission of weekly technical reports to the RAPM describing progress at each beacon Leapfrog site within the TOR's assigned area of responsibility.

(e) For notifying the RAPM, directly by phone, of any incident, or problem, which causes an interruption of facility service, or delay of installation activity. The notification will be as soon as convenient to do so following occurrence of the problem.

(f) Reviews various documents concerning proposed changes, test plans, schedules, and makes recommendations, as appropriate.

(g) Participating in the biweekly telcon with the project TOR's, RAPM's, TO, and PM.

51. PROJECT CONTACTS. Primary points of contact for the beacon Leapfrog project are included in Figure 5-2, Beacon Leapfrog Project Contact List.

FIGURE 5-2. BEACON LEAPFROG PROJECT CONTACT LIST

<u>Title/ Project Area</u>	<u>Office</u>	<u>Individual</u>	<u>Telephone</u>
Program Director	ANR-1	Terry Hannah	202-606-4531
Program Manager	ANR-300	Byron Johnson, Acting	202-606-4644
Assoc Prog Mgr Engineering	ANR-130	James Moe	202-606-4637
Assoc Prog Mgr Contracts	ASU-320	Steve Brown	202-267-3637
Assoc Prog Mgr Gen Counsel	AGC-510	George Kinsey	202-267-3480
Assoc Prog Mgr Logistics	ANS-430	Chuck Gould	202-267-3154
Assoc Prog Mgr Systems Engr	ASE-300	James Brown	202-287-8633
Assoc Prog Mgr ATC Reqmts	ATR-126	Mike Cirillo	202-267-9749

BEACON LEAPFROG PROJECT CONTACT LIST (Cont'd)

Assoc Prog Mgr ATC Proced	ATP-130	Mike Cirillo	202-267-3725
Assoc Prog Mgr Opn Support	AOS-320	Gerald Young	202-267-8525
Assoc Prog Mgr FAA Academy	AMA-442	Carol Hobson	405-747-3755
Assoc Prog Mgr FAA Logistics Ctr	AML-200	Ed Andrews	405-747-7491
Program Mgr's Business Manager	ANR-300	Irene Langweil	202-606-4798
ANR Engineering Support	NYMA	Cecil Jackson	202-488-4118
Assoc Prog Mgr Central	ACE-425	Leland Riffel	816-426-5676
Assoc Prog Mgr Eastern	AEA-451.1	Mark Miglietta	718-553-1198
Assoc Prog Mgr Great Lakes	AGL-421	Orlando Alers	312-694-7584
Assoc Prog Mgr New England	ANE-422	Bruce Ng	617-273-7271
Assoc Prog Mgr NW-Mountain	ANM-422	Darby Curran	206-227-2434
Assoc Prog Mgr Southern	ASO-422	Glen Beaupre	404-763-7371
Assoc Prog Mgr Southwest	ASW-421	Bill Kolp	817-740-3442
Assoc Prog Mgr West-Pacific	AWP-422	Scott Earl	310-297-1080

Contractor

Program Mgr, NYMA:	APS	Ken Drews	202-488-4118
Prog Mgr, Raytheon:	RSC	Bruce Campbell	202-863-1690
Project Mgr, SEI:		Larry Hanes	202-646-2364

52. PROJECT COORDINATION. The following subparagraphs provide a brief overview of program support groups and their responsibilities to assist the PM in managing all aspects of the program:

a. Headquarters Associate Program Managers. These associate program managers provide required support to the PM within their areas of responsibility.

b. Regional Associate Program Managers (RAPM). The RAPM'S serve as focal points in their respective regions for all the beacon Leapfrog system implementation activities. As the PM's regional representatives, they work closely with the PM and the

APME or TO. They are designated by the regional AF division managers, appointed by the PM, and are accountable for ensuring that the beacon Leapfrog project is implemented in an orderly manner. The RAPM's tasks include, but are not limited to, the following:

- (1) Coordinate/manage regional deployment activities.
- (2) Provide guidance and direction to the FAA site personnel.
- (3) Provide input and periodic technical reports describing the deployment progress at each site to the TO.
- (4) Coordinate with AT as required, for test activities associated with the operational ATC systems.
- (5) Notify the PM of JAI readiness and conduct integration of the ATCBI-4/5 system into the NAS (reference Order 6030.45, Facility Reference Data File) and ensure that the AF sector manager, or appropriate representative, is present.
- (6) Review and approve the donor and receive site specific CSER's.

c. TOR. The TOR is the project interface between the installation contractor(s) and FAA. Tasks include, but are not limited to, the following:

- (1) Presenting the NTP, promptly upon receipt thereof from the RAPM, to the TSSC.
- (2) Arranging for contractors' site access.
- (3) Assisting the contractor during site surveys.
- (4) Providing inputs to logistics planning activities as they relate to site requirements.
- (5) Assisting the TSSC in performing the donor site equipment inventory and coordinating the de-installation at the donor site.
- (6) Providing assistance in direction and guidance to the contractor or to efficiently and timely accomplish site preparation, installation, testing, and evaluation for the ATCBI-4/5 interrogator system.

(7) Witnessing the site preparation, installation, and receive site SOI testing in accordance with ATCBI-4/5 test requirements, as established by the CSER.

(8) Participating in (CAI, JAI, and flight) testing and integration into NAS (ORD) in accordance with ATCBI-4/5 test procedures/requirements, as established by the CSER and FAA order.

(9) Completing the FAA Form 256, Inspection Report of Material or Services, for the ATCBI-4/5 system.

(10) Maintaining installation logs and submitting installation status reports, based on log entries, to the RAPM. Reporting problems that cause service outages or installation delays directly and immediately to the TO through the RAPM.

(11) Inventory of equipment and preparation of pertinent documents pertaining to decommissioning and disposal of the ATCBI-3 system and associated equipment.

(12) Coordinating with the contractor regarding removal of the ATCBI-3 system.

(13) Coordinating with the contractor regarding handling and disposal of hazardous materials contained within the ATCBI-3.

(14) Coordinating the cannibalization of the ATCBI-3 to salvage certain scarce reusable item for return to stock at the FAA Logistics Center.

(15) Coordinating with the TSSC to assure usage of proper procedures in the handling and disposal of surplus material and equipment.

53. PROJECT RESPONSIBILITY MATRIX. The Beacon Leapfrog Project Responsibility Matrix is shown in figure 5-3.

FIGURE 5-3. BEACON LEAPFROG PROJECT RESPONSIBILITY MATRIX

<u>Task/Plan/Activity</u>	<u>Primary Office</u>	<u>Supporting Office</u>
Project Management and Control	Secondary Radar Program Manager	All
NAS Implementation-ATCBI Leapfrog Sys	ANR-130, Regions, Contractor	FAA, ACT
Financial Management	Business Manager	ANR-130, Regions

BEACON LEAPFROG PROJECT RESPONSIBILITY MATRIX (Cont'd)

Record Form FRDF	TOR	ANR-130
Installation of ATCBI-4/5	Regions, TSSC	Regions, ANR-130
Site Survey & CSER	TSSC, RAPM	Regions, ANR-130
Acceptance Tests SOI/CAI/JAI	TSSC, TOR	ANR-130, AAT Regions
ORD	TOR	Regions, AAT ANR-130
Maintenance Staffing	ASM-260, AF	ANR-130, Regions
RMS	ANR-130, ANA-160	All
Training	ASM-250, AMA-442	Regions
Technical (overall)	ANR-130	All
Technical (Field)	Regions, ACW-100, AML-1, AOS-320	ASM-100, TSSC ASM-300, Regions
Logistic Support	ANR-130, AML, ASU-300, ASU-430	ASM-100, TSSC
Site Preparation	Regions	TSSC, ANR-130

54. PROJECT MANAGERIAL COMMUNICATIONS. To maintain effective and responsible control of overall ATCBI Leapfrog project progress, reviews, conferences, and working sessions will be held among the PM's, associate program managers, TO's, TOR's and the contractor. Participation in these conferences and working groups by various FAA offices will be requested at the discretion of the PM. In addition, routine status reports will be required.

55. IMPLEMENTATION STAFFING. The following personnel are responsible for the implementation of the ATCBI Leapfrog project.

a. PM. The Program Director for Surveillance (ANR-1) has designated ANR-300 to serve as PM for the ATCBI-4/5 Leapfrog project.

b. TO The APME has designated a member of ANR-130 as TO for the beacon Leapfrog project. The TO will be responsible for all aspects of installation, testing, and management of the

beacon Leapfrog contract. The TO is also responsible for all aspects of field implementation and will maintain close liaison with regional TOR's and the contractor's installation teams in the regions.

c. Regional Associate Program Manager. The associate program manager serves as a focal point for all regional beacon Leapfrog project activities, including site preparation.

d. TOR. The TOR will ensure that activities in support of the ATCBI-4/5 system installation and decommissioning of the ATCBI-3 are accomplished in an orderly manner.

56. PLANNING AND REPORTS. The successful implementation of the beacon leapfrog project will be monitored by the use of the following:

a. Program Status Review Boards. The PM will brief higher level management on the status of program schedules, cost information, and technical topics. These reviews provide for top level management control of the program. The PM may request the support of functional or contractor organizations in providing status and information on specific program topics.

b. Contractor Progress Reports. The contractor will apprise the TO on a monthly basis of their assessment of contractual effort, work scheduled for the next period, and any special problem areas, including proposed solutions.

c. Leapfrog Matrix Team. This team will meet periodically at FAA headquarters in Washington, DC, or other agreed to locations, to address both program issues and specific functional activities. Membership consists of the PM and the associate program managers. Other offices will be asked to participate as required. Action items generated at these meetings will be resolved by the program office or representatives from functional areas. Minutes of each meeting will be distributed to attendees and include a summary of the topics discussed and description of all action items/resolutions.

d. Nationwide TOR Conferences. These conferences will be scheduled as necessary. These meetings are attended by the TOR from each region, the TO, and representatives from headquarters' matrix team. The conferences provide a forum to discuss and resolve program issues of special interest to the regions. Action items generated at these conferences focus on regional concerns and are resolved by the TO and designated TOR or representatives from functional areas.

e. Regional Status Reporting. Weekly status reports regarding technical progress will be submitted to the TO by each TOR. Routine reporting, as well as responses to specific issues/requests, will be addressed in these reports.

f. Installation Phase Documentation. The basic documentation required is the installation log and the weekly installation status report. These are described as follows:

(1) Installation Log. The TOR will maintain a project log and make entries documenting the installation status, activities and events for each site. Entries will be made for visits to the site, communications, coordination, and other pertinent information having an impact on the contract. Items of consequence not adequately covered by written documents shall be included in the log (e.g., unusual physical conditions encountered, oral protests, design deficiencies noted and actions taken, cause and extent of delays, etc.). The complete and factual entries will be made at the time of occurrence. Upon completion of the contracted work, the TOR will forward the log to the TO.

(2) Weekly Installation Status Reports. These reports are designed to ensure that the contracting officer, regional divisions, and the PM are abreast of the progress and/or problems each week at each location. The weekly status report will be prepared and distributed by the TOR and will be supplied to the regional associate program manager.

57. APPLICABLE DOCUMENTS.

a. FAA Orders.

1000.1A	Policy Statement of the Federal Aviation Administration
1100.1A	FAA Organization - Policies and Standards
1100.2C	FAA Organization - FAA Headquarters
1100.5B	FAA Organization - Field
1800.8	National Airspace System Configuration Management
1800.13C	Planning and Resource Allocation
1800.58	NAIS Policy
1800.63	NAS Deployment Readiness Review
1810.1	Major Acquisitions
1810.4B	FAA NAS Test and Evaluation Policy
4250.9	Field Materiel Management and Control
4650.7	Management of Project Materiel

4650.22D	Vendor shipments of Nationally-Furnished Project Materiel
4800.2A	Utilization and Disposal of Excess and Surplus Property
6000.30B	Policy for Maintenance of the NAS Through the Year 2000
6000.26A	Reliability and Maintenance Policy
6030.45	Facility Reference Data File
6090.15B	Development and Implementation of RMS within the National Airspace System (NAS)
6340.6B	Airway Facilities Testing and Flight Inspection Handbook
AF 6360.1	Radar Facilities and Equipment Modification Handbook, Radar Beacon Maintenance of Air Traffic Control Beacon Interrogator, ATCBI (except ATCBI-5)
6360.1B	
6360.6	Interface Instruction for Air Traffic Control Beacon Interrogator, ATCBI-4
6360.7A	Air Traffic Control Radar Beacon System, Standard Drawings
6360.13	Air Traffic Control Radar Beacon System (ATCRBS)
AF 6360.14A	Maintenance of Air Traffic Control Beacon Interrogator Equipment, ATCBI-5

b. FAA Standards.

FAA-Std-002C	Facilities Engineering Drawing Preparation
FAA-Std-019b	Lightning Protection, Grounding, Bonding, and Shielding Requirements for Facilities

c. FAA SPECIFICATIONS.

NAS-SS-1000	Volume 1, Appendix II, Functional and Performance Requirements for the National Airspace System, General.
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d. FAA Forms.

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Inspection Report of Material or
Services

6030.18

Joint Acceptance Inspection (JAI)

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58.-59. RESERVED.

CHAPTER 6. PROJECT FUNDING

60. PROJECT FUNDING STATUS, GENERAL. Funding requirement for the Leapfrog relocation was identified through the Capital Investment Plan process as project 44-45 of the Capital Investment Plan, dated December 1990. Actual funding levels will be determined through the agency's budget submission and Congressional action.

61. PROJECT FUNDING STATUS, REGIONS. Regions will be provided additional funds as required, when requested by the region, based on justification.

62. PROJECT FUNDING STATUS, AERONAUTICAL CENTER. The Aeronautical Center will be provided additional funds for training, logistics support, test sets, and spares, as required, when requested by the Aeronautical Center, based on justification.

63-69. RESERVED.

CHAPTER 7. DEPLOYMENT

70. GENERAL DEPLOYMENT ASPECTS. The TSSC, under a national work release, will develop a CSER, as a result of the site surveys for each donor and each receive site, respectively, delineating the division of project responsibilities of the FAA and the contractor. The FAA is responsible for the operational condition of the donor site ATCBI-4/5 system when released to TSSC for inventory and removal. The contractor is responsible for performing the site surveys; removal, transporting, relocation, installation, and receive site testing (SOI, CAI) of the ATCBI-4/5 system, including the RBPM and RMM, if installed by TSSC, associated equipment and spares; and removal and disposal of the ATCBI-3 or military beacon system, and associated equipment at the receive site. The final action of the relocation will be the preparation and delivery of "As-Built" site drawings. The CSER will specify in detail the plans and procedures to be used in accomplishment of this project.

71. SPECIFIC DEPLOYMENT RESPONSIBILITY. Donor/receive sites for the beacon Leapfrog equipment are listed in appendix 2, figures 1 and 2.

a. Site Preparation. Physical site preparation requirements will be minimal, however, typical Leapfrog preparations (to allow operation of the Leapfrog ATCBI into the antenna/dummy load for test/checkout purposes), by TSSC, will be necessary:

(1) The CSER will be used by the regions as a guide to prepare the donor site for removal of the ATCBI-4/5 system, the receive site for installation of the ATCBI-4/5 system, removal of the ATCBI-3 system and to perform necessary services not required of the contractors. The FAA is required to provide the necessary equipment and to perform services for each site prior to the removal and installation of the ATCBI-4/5 system and associated equipment, spares, manuals, and documentation. TSSC will be responsible for removal, packing, and transporting this equipment and material to the receive site. The donor site AF sector office, or TOR, will prepare the pertinent documentation for release of the equipment to TSSC for removal.

(2) The Leapfrog receive site installations will utilize existing FAA/Government facilities or property, such as Radar Microwave Link (RML) Systems, RCL, RML/RCL repeater equipment/towers, cable junction boxes, MODEMS, remoting subsystems, land lines, equipment rooms and control towers, as appropriate. The ATCBI-4/5 will be installed so as to permit

simultaneous local operation with the ATCBI-3, by site engineers/technicians, during the check-out and test phase.

b. Deployment Tasks. The regions, in general, are expected to manage contractor performance of the site functions as outlined and in accordance with the approved CSER:

(1) A TSSC, under a national work release, will accomplish the following items:

(a) Generic CSER. Develop a generic CSER for a donor and a receive site, respectively, for FAA approval. The CSER will include all specific details and information required to effectively accomplish the Beacon Relocation Project.

(b) Donor Site Survey. The donor site survey is the first step of the field equipment relocation process. The site survey will determine detailed requirements necessary to effect the relocation, inventory of the equipment, spares, manuals, modifications status, ATC impact, accessibility, manpower, and division of responsibilities of FAA and TSSC. Surveys will be performed in a timely sequence to permit an even flow of the following activities and will serve as the basis for the development of the CSER.

(c) Receive Site Survey. The receive site survey is the first step of the field reinstallation process. The site survey will determine detailed requirements necessary to effect the installation, space availability, interface assets, ATC impact, site accessibility, inventory of the ATCBI-3 equipment to remove and plan of disposal, test equipment asset inventory, manpower and anticipated training requirements, and division of responsibilities of FAA and TSSC. Surveys will be performed to serve as the basis for development of the CSER.

(d) Preliminary Donor Site CSER. The preliminary donor site specific CSER, using the generic CSER as a basis, will be developed as a result of the donor site survey. The CSER will list, in detail, any asset, site, interface or project deficiencies, potential problems, and modification status of the Leapfrog equipment. The CSER will include all necessary plans, procedures, details, and directives to cover all aspects of the testing, inventory, removal, packing, and transportation of the ATCBI-4/5 system by contractor technicians/engineers to correctly effect relocation of the system. The CSER will be distributed to the FAA for review, comments, and approval. FAA will have at least 30 days to respond with comments and/or approval. See Figure 4-1, Milestone Schedule.

(e) Preliminary Receive Site CSER. The preliminary receive site specific CSER, using the generic CSER as a basis, will be developed as a result of the receive site survey. The CSER will list, in detail, any site, interface or project deficiencies, potential installation or access problems that will interfere or delay the system installation. The CSER will include all necessary plans, procedures, details, and directives to cover all aspects of the installation of the ATCBI-4/5 system by contractor technicians/engineers to correctly install the equipment and initiate its operation. The CSER will include a full set of site drawings covering any and all wiring/cable/equipment/structural changes of the installation. The CSER, with drawings, will be distributed to the FAA for review, comments, and approval. FAA will have at least 30 days to respond with comments and/or approval. See figure 4-1.

(f) Final Donor Site CSER. A final donor site CSER will be developed by revising the preliminary donor site CSER to reflect the revisions per the FAA review, comments, or acceptance of the preliminary donor site CSER. The contractor will have at least 30 days, from date of receipt of comments on the preliminary CSER from FAA, to complete the final CSER. The final CSER will be submitted to FAA for approval and acceptance and will serve as the basis for issuance of the NTP.

(g) Final Receive Site CSER. A final receive site CSER will be developed by revising the preliminary receive site CSER to reflect the results of the FAA review, comments or acceptance of the preliminary receive site CSER. The contractor will have at least 30 days, from date of receipt of comments on the preliminary CSER from FAA, to complete the final CSER. The final CSER will be submitted to FAA for approval and acceptance and will serve as the basis for issuance of the NTP.

(h) Notice-To-Proceed (NTP). The FAA will have at least 15 days from date of their receipt of the final CSER to issue the NTP, provided that FAA determines there is no conflict of installation/commissioning schedules with that of the Mode S, ASR-9, and ARSR-4 systems. The NTP will be the authority for a TSSC to begin the equipment relocation process at the donor site, site preparation and equipment installation process at the receive site, respectively.

(i) System Removal. System removal should be in strict adherence to the donor site final CSER for each site. Removal of the ATCBI-4/5 system from the donor site will include Sola AC Voltage Regulators, RBPM/RSM(s) and RMM as required, control boxes, special cables, with associated instruction manuals, modification records, and system specific unique spares.

Removal and shipment of RF antenna cables will be dependent on donor and receive site requirements as specified in the site specific CSER.

(j) Donor Site Restoration. TSSC will repair floor tiles, paint mars, and any other damages resulting from the equipment removal or contractor's activity at the donor site.

(k) Packing and Transport. TSSC will pack all the equipment in subparagraph 71b(1)(i) and transport/ship via padded van to the receive site, or the TSSC depot, as specified in the CSER or per FAA directions at that time.

(1) Installation Plan.

1 The system installation plan is detailed in the receive site CSER for each respective site. Installation should be in strict adherence to the CSER to conserve configuration uniformity. Installation and testing of the equipment is the responsibility of the TSSC. The contractor will schedule, coordinate, and staff the efforts required for expeditious completion of the installation with ABSOLUTE MINIMUM DISRUPTION to ongoing ATC operations and the surrounding area. Any and all activity, which could potentially interrupt facility ATC service will be coordinated, well in advance, with the TOR, so that the TOR will have ample time to coordinate the activity with the appropriate personnel. Once started, it is imperative that the ATCBI-4/5 installation, testing, and ATCBI-3 removal and disposal proceed expeditiously, with minimum interference to ATC operation, and be accomplished without interruption or undue delays. All site work should be accomplished within 5 work days at existing ATCBI-3 receive sites. For new ASR/ARSR sites, installation of the ATCBI-4/5 and testing is expected to be accomplished within 10 work days.

2 The entire installation effort will be under the management control of the PM with assistance from associate program managers and other regional and site representatives. All contractor activity will be coordinated with the TOR, who will witness and certify the acceptability of each installation, including the red-lined as-built site drawings. Procedures for routine progress reporting will be established by the PM with input from the TOR and item managers. ANR-130 will advise the regions on disposition of the ATCBI-3 equipment displaced by the Leapfrog installation.

3 At the ATCBI-3 receive sites, the Leapfrog ATCBI-4/5 equipment will be located to allow temporary access to the antenna RF cables (thru temporary switch or cable connection)

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to permit beacon operation during the installation of the ATCBI-4/5. An RF antenna cable switching arrangement should be fabricated locally by TSSC and utilized to permit changing the antenna between systems for radiation test purposes. The planned arrangement will be detailed in the CSER.

4 Install the ATCBI-4/5 system, including control boxes, circuit breakers and control/cables. The new ASR/ARSR installations contractor will have previously installed the rotary joint, beacon antenna, and RF cables from the proposed location for the ATCBI equipment. The previously selected pulse rate for new BOS ATCBI-4/5 sites will be set in at this time.

5 Install the RBPM (as applicable), w/control box and antenna(s).

6 Install the remote control boxes as applicable.

(m) Receive Site SOI. TSSC will perform the SOI, witnessed by the TOR, to ensure that, after installation, the ATCBI-4/5 Interrogator System meets or exceeds minimum initial tolerances, as specified in Orders 6360.1B and 6360.14A, respectively.

(n) Contractor Acceptance Inspection (CAI). The CAI is to ensure that the technical and operational requirements of the CSER has been met. It is the responsibility of TSSC to perform the CAI, which will be witnessed by the regional TOR.

(o) Site Drawings. The TSSC will prepare final "As-Built" drawings in D size and on Magnetic tape in the Auto-Trol format, per FAA standard FAA-STD-002, Facilities Engineering Drawing Preparation, for distribution to each respective region.

(p) Training. ATCBI-4/5 training course(s) availability and schedules will be arranged by AF with AMA to ensure completion of training requirements prior to the Leapfrog equipment installation to obviate delays in commissioning.

(q) Contractor Support. A TSSC will provide all manpower, material, and equipment required to lift and move the ATCBI-4/5 and ATCBI-3 system cabinets within and between the donor and receive site facilities.

(2) Flight Inspection. The flight inspection of the Leapfrog system will be performed by FAA as required by AOS and region, augmented by the use of automated tools as FAA may deem adequate at that time.

(3) Joint Acceptance Inspection (JAI). The JAI is to prove that all requirements for installation have been satisfied and the equipment is ready to be commissioned. Performance of the JAI is the responsibility of the TOR and will be conducted in accordance with Order 6030.45, Facility Reference Data File. JAI documentation is comprised of FAA Forms 6030.18 through 6030.25 and the data contained therein. A copy of the results of the JAI will be forwarded to the TO.

(4) Operational Readiness Demonstration (ORD). The ORD is the operational testing exercising (OT&E) of the system in an operational environment to support the determination that the system is ready for full operation as part of the NAS. This includes testing and evaluation (T&E) to confirm that, when the system is operated and maintained by operational personnel in an operational environment, all requirements are met. This includes final adjustments of transmitter power, antenna tilt (at new sites), and receiver sensitivity time constant (STC) settings. ORD establishes the operational readiness of the people, procedures, and the system to assume field operational status.

(5) Facility Restoration. The contractor will repair floor tiles, paint mars, and any other damages resulting from the equipment removal.

72. DELIVERY. The contractor's installation team will be responsible for going to the donor site for removal, packing, and transporting, via padded van, the ATCBI-4/5 system, RBPM w/RSM (if applicable), including all associated equipment (except Beacon Test Set) and cables (RF cables if applicable), spares, instruction manuals, and modification records to the receive site. The contractor is responsible for providing all installation hardware, material (except the RF antenna cables and connectors, if required, will be GFM), and required personnel at each ATCBI-4/5 receive site. The equipment, spares, instruction manuals, modification records and associated materials will be transported/shipped to each receive site immediately after release from the donor sites. The Beacon Leapfrog Deployment schedule is listed in, appendix 2, figure 1. The Leapfrog sites' typical equipment complement and layout are shown in figures 3-1 through 3-6.

73. INSTALLATION.

a. Installation and checkout/testing of the ATCBI-4/5 system to meet initial tolerances, per Orders AF 6360.1B and AF 6360.14A, respectively, is the responsibility of the TSSC. The entire effort will be under the management control of the RAPM and TOR, with assistance from associate program managers, other

regional and site representatives. The TOR will witness and certify the acceptability of each installation. Procedures for routine progress reporting will be established by the PM with input from the TOR and item managers. ANR-130 will advise the regions on disposition of ATCBI-3 equipment replaced by Leapfrog of the ATCBI-4/5 systems.

b. The receive site CSER will specify in detail the installation, evaluation, test plan, and ATCBI-3 equipment removal for each site, with schedules for accomplishing each phase of the work. Regional facility engineering drawings of each site are to be furnished to the contractor, by FAA, prior to or during the site survey, to aid in the preparation of the CSER. Coordination with the regions on the installation plan/schedules will be accomplished by the program office. Review of the CSER by the cognizant regional AT and AF divisions shall be accomplished within 30 days from date of receipt and returned to TSSC with comments or FAA approval. The CSER's will contain all necessary information required by contractor technicians/engineers to correctly install the equipment and initiate its operation. Included will be step-by-step procedures for unpacking, installing, and testing the ATCBI-4/5 system and its support equipment, plus detailed procedures for the removal, preparation, and disposal of the ATCBI-3. Preliminary D-size site construction drawings will be provided with the preliminary receive site CSER to facilitate equipment installation. As the last item of the installation, these drawings will be updated and provided, on vellum, as final As-Built D-size drawings, plus one copy of Auto-Trol tape, per FAA-Std-002, to the regional office. In summary, all activities of the receive site effort will be described in specific detail in the receive site CSER.

c. The contractor will schedule, coordinate, and staff the efforts required for expeditious completion of the installation with ABSOLUTE MINIMUM DISRUPTION to ongoing FAA ATC operations and surrounding activity. Once started, it is imperative that onsite installation and testing be accomplished as expeditiously as possible with minimum ATC beacon service interruption and outage time. The installation, testing, and ATCBI-3 removal is expected to be completed within 5 work days at existing ATCBI-3 receive sites and within 10 work days for new ASR/ARSR installations. All activities of the contractor, from removal of the donor site equipment through installation, checkout, and acceptance, will be coordinated with the donor/receive onsite TOR. All receive sites (existing ATCBI-3) will retain the existing test equipment for use with the Leapfrog beacon, while newly established sites (ASR-9 and ARSR-4) will be provided beacon test equipment per CSER requirements, to be funded by the Program Office.

d. TSSC will contact the donor and receive sites' TOR's immediately prior to removal and transport of the equipment, to confirm that the sites are ready for equipment removal and installation.

74.-79. RESERVED.

CHAPTER 8. VERIFICATION

80. SYSTEM OPERATIONAL INSPECTION (SOI). TSSC will, after the ATCBI-4/5 installation is completed and system properly adjusted, and tuned up, conduct the SOI, witnessed by the TOR, to verify that the ATCBI-4/5 system meets or exceeds minimum tolerances as established by Orders AF 6360.1B, and AF 6360.14A, respectively. Upon successful completion of the SOI, proceed with the CAI.

81. CONTRACTOR ACCEPTANCE INSPECTION (CAI). The TSSC will demonstrate to the FAA that the system has met all technical and functional requirements of ATCBI-4/5 per Orders AF 6360.1B and 6360.14A, respectively and the FAA ATC system. Satisfactory completion of these tests designates operational acceptance of the equipment by FAA. At this time, the TOR should prepare FAA Form 256 and proceed with the site acceptance test plan as outlined in the CSER.

82. FLIGHT INSPECTION. The flight inspection of the Leapfrog system will be performed by FAA as required by the Operational Support Service (AOS) and regions, augmented by the use of automated tools. The TOR will effect advance coordination.

83. JOINT ACCEPTANCE INSPECTION (JAI). A JAI will be conducted in accordance with Order 6030.45. The JAI is to ensure that each ATCBI-4/5 system meets specified FAA requirements for operation and maintenance and is ready to be commissioned. The JAI may include representatives from AT, AF, regional offices, and other organizations as appropriate. A copy of the results of the JAI will be forwarded to the TO. The JAI documentation is comprised of FAA Forms 6030.18 through 6030.25, included as an appendix of the CSER, and the data contained therein. The ATCBI-4/5 system will be designated as operationally certifiable upon the satisfactory completion of the JAI.

84. OPERATIONAL READINESS DEMONSTRATION (ORD). ORD is the final stage of OT&E. The goal of ORD is the exercise of a system in an operational environment satisfactorily to support the determination that the system is ready for full operation as part of the NAS. This includes T&E to certify and confirm that, when the system is operated and maintained by operational personnel in an operational environment, all requirements are met. This includes final adjustments of transmitter power, antenna tilt (at new sites), and receiver STC settings. Testing should reflect the operational readiness of people, procedures, and the system to assume field operational status.

85.-89. RESERVED.

CHAPTER 9. INTEGRATED LOGISTICS SUPPORT

90. MAINTENANCE CONCEPT. The design and operational characteristics of the NAS Maintenance Concept are described in Order 6000.30, Policy for Maintenance of the NAS Through the Year 2000. The ATCBI-4/5 Interrogator System is supported in compliance with the maintenance policy at two levels of maintenance-site and depot. All elements of maintenance are in accordance with the ILS concept. Complete system checkout, normal preventive maintenance tasks, restoral to service and certification will be accomplished prior to the technician leaving the radar site. The failed line replaceable units (LRU) will be forwarded to the FAA Logistics Center (Depot) for repair, where specialized skills and equipment will be used to effect repairs.

91. TRAINING. ATCBI-4/5 training courses availability will be arranged by AF with AMA, for later schedule and reactivation of courses, if necessary to ensure completion of training requirements prior to the Leapfrog equipment installation to obviate delays in commissioning.

92. SUPPORT TOOLS AND TEST EQUIPMENT. Any Beacon Test Sets, in excess of one, and other support equipment (RBPM/RSM) will be released by the donor site, inventoried, and leapfrogged by TSSC as part of the ATCBI-4/5 system, as required. For newly established ASR, ARSR, and BOS sites, Beacon Test Sets will either be leapfrogged from sites having an excess of one test set, or new test sets will be procured through funding by the program office.

93. SUPPLY SUPPORT. Donor site spares will be shipped with the system to the receive site. An inventory (on diskette) of these spares will be leapfrogged with the equipment. LRU's not stocked at the site will be ordered in accordance with existing requisition policy. All spares used by the contractor during installation of the equipment will be provided by the receive site. Additional provisioning may be required to support the systems; this provisioning may be FAA or contractor supported.

94. EQUIPMENT REMOVAL. The TSSC is responsible for the removal and disposal of the ATCBI-3 system and associated equipment, after commissioning of the ATCBI-4/5 and Mode S systems.

a. Included will be the disposal of the ATCBI-3 site spares and RF antenna cable (if not usable in other commissioned equipment at the same site), instruction manuals, maintenance handbooks (ONLY IF BEING REPLACED BY A BI-5), and modification records.

NOTE: If the Leapfrog equipment being received is an ATCBI-4, DO NOT dispose of the maintenance handbook, Order 6360.1B, because both the BI-4 and the BI-3 systems use the same maintenance handbook.

b. In addition, all chapters of Order AF 6360.1, Radar Facilities and Equipment Modification Handbook, Radar Beacon, applicable to the ATCBI-3 equipment should be removed and destroyed.

c. The ATCBI-3 equipment disposal will be in accordance with Order 4800.2A, Utilization and Disposal of Excess and Surplus Personal Property, the ATCBI-3 Disposition Plan, CSER, or as otherwise directed by the PM at that time.

d. RMM, RSM equipment, and/or Beacon Test Set, removed from the donor site, but not installed at the receive site, will be shipped to the FAA Logistics Center, or to another receive site, per the CSER or as otherwise directed by ANR-130 at that time.

95. FACILITIES. The TSSC is responsible for providing private storage for the ATCBI-4/5 equipment, prior to installation, and other site preparation as specified in the CSER and approved by FAA.

96.-99. RESERVED.

APPENDIX 1. ABBREVIATIONS & ACRONYMSORGANIZATION SYMBOLS.

AAP	Program Manager for Advanced Automation
ABU	Office of Budget
ACE	Federal Aviation Administration Central Region
ACN	Engineering, Test and Evaluation Service
ACS	Assistant Administrator for Civil Aviation Security
ACT	FAA Technical Center
AEA	Federal Aviation Administration Eastern Region
AF	Airway Facilities
AFS	Flight Standards Office
AGC	Office of the Chief Counsel
AGL	Federal Aviation Administration Great Lakes Region
AHT	Office of Training and Higher Education
AMC	Mike Monroney Aeronautical Center
ANA	Program Director for Automation
ANE	Federal Aviation Administration New England Region
ANM	Federal Aviation Administration Northwest-Mountain Region
ANR	Program Director for Surveillance
ANS	NAS Transition and Implementation Service
AOS	Operational Support Service
ASE	NAS System Engineering Service
ASM	Systems Maintenance Service
ASO	Federal Aviation Administration Southern Region
ASW	Federal Aviation Administration Southwest Region
ASU	Associate Administrator for Contracting and Quality Assurance
AT	Air Traffic
ATM	Office of Air Traffic System Management
ATP	Air Traffic Rules and Procedures Service
ATR	Air Traffic Plans and Requirements Service
AWP	Federal Aviation Administration Western-Pacific Region
FAA	Federal Aviation Administration
NYMA	NYMA, Incorporated (contractor)
RSC	Raytheon Service Company (contractor)
SEIC	System Engineering and Integration Contractor
TSC	Transportation Systems Center
TSSC	Technical Services Support Contractor

PROGRAM and ASSOCIATE PROGRAM MANAGERS.

PM	Program Manager
APMA	Associate Program Manager for the FAA Academy
APMC	Associate Program Manager for Contracting
APMCE	Associate Program Manager for the Central Region
APMD	Associate Program Manager for the FAA Logistics Center

APME	Associate Program Manager for Engineering
APMEA	Associate Program Manager for the Eastern Region
APMGC	Associate Program Manager for General Counsel
APMGL	Associate Program Manager for the Great Lakes Region
APML	Associate Program Manager for Logistics
APMNE	Associate Program Manager for the New England Region
APMNM	Associate Program Manager for the Northwest-Mountain Region
APMOS	Associate Program Manager for Operational Support
APMP	Associate Program Manager for ATC Procedures
APMR	Associate Program Manager for ATC Requirements
APMSE	Associate Program Manager for Systems Engineering
APMSO	Associate Program Manager for the Southern Region
APMSW	Associate Program Manager for the Southwest Region
APMWP	Associate Program Manager for the Western-Pacific Region

ACRONYMS:

AC	Air Conditioning
ACO	Administrative Contracting Officer
AERA	Advance En Route Automation
APG	Azimuth Pulse Generator
ARSR	Air Route Surveillance Radar
ARTCC	Air Route Traffic Control Center
ARTS	Automated Radar Terminal System
ASR	Airport Surveillance Radar System
ATC	Air Traffic Control
ATCRBS	Air Traffic Control Radar Beacon System
ATCBI	Air Traffic Control Beacon Interrogator
ATO	Alternate Technical Officer
BFTA	Beacon False Target Analysis
BOS	Beacon-Only Site
bps	Bits per Second
CAE	Call for Estimates
CAI	Contractor Acceptance Inspection
CCB	Configuration Control Board
CCD	Configuration Control Decisions
CD	Common Digitizer
CD-2	Common Digitizer-2
CDR	Critical Design Review
CIP	Capital Investment Plan
COMDIG	Common Digitizer Data Reduction
CPME	Calibration Performance Monitoring Equipment
CPCI	Computer Program Configured Item
CPU	Central Processor Unit
CY	Calendar Year
CSER	Contractor Site Engineering Report
DEDS	Data Entry Display System

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Appendix 1

DLP	Data Link Processor
DOC	Date of Contract
DRR	Deployment Readiness Review
DT&E	Development, Test and Evaluation
EG	Engine Generator
EIB	Equipment Instruction Book
F&E	Facilities and Equipment
FAR	Federal Acquisition Regulations
F&E	Facilities and Equipment
FT&E	Field Test and Evaluation
FRB	Facilities Review Board
FRDF	Facilities Record Data Form
GFE	Government-Furnished Equipment
GFM	Government-Furnished Material
ICD	Interface Control Document
IFR	Instrument Flight Rules
ILS	Integrated Logistics Support
ILSMT	Integrated Logistics-Support Management Team
ILSP	Integrated Logistics Support Plan
ISM	Integral System Monitor, p/o RBPM
ISP	Integrated Support Plan
ITP	Integration Test Plan
JAB	Joint Acceptance Board
JAI	Joint Acceptance Inspection
JV	Joint Venture
LOA	Letter of Agreement
LRU	Line Replaceable Unit
Mode S	Mode Select Beacon Sensor System
MPS	Maintenance Processor Subsystem
MSA	Major System Acquisition
MTBF	Mean Time Between Failure
MTTR	Mean Time to Repair
NAILS	National Airspace Integrated Logistics Support
NAILSMT	National Airspace Integrated Logistics Support Management Team
NAS	National Airspace System
NICS	National Interfacility Communications Service
NTP	Notice to Proceed
ORD	Operational Readiness Demonstration
OT&E	Operational Test and Evaluation
PAT&E	Production Acceptance Test and Evaluation
PC	Personal Computer
PDR	Preliminary Design Review
PIP	Project Implementation Plan
PSF	Program Support Facility
PSRB	Project Status Review Board
QA	Quality Assurance
QARS	Quick Analysis on Radar Sites
RAPM	Regional Associate Program Manager

RCAG	Remote Communications Air-to-Ground
R&D	Research and Development
RBPM	Radar Beacon Performance Monitor
RMA	Reliability, Maintainability and Availability
RML	Radar Microwave Link
RMM	Remote Maintenance Monitor
RMMJB	Remote Maintenance Monitor Junction Box
RMMS	Remote Maintenance Monitoring System
RMS	Remote Maintenance Subsystem
RPMS	Regional Project Management System
RSM	Remote System Monitoring, p/o RBPM
SARC	System Acquisition Review Committee
SEB	Source Evaluation Board
SER	Site Engineering Report
SOI	System Operational Inspection
SOW	Statement of Work
SPR	Site Preparation Report
TBD	To Be Determined
T&E	Test and Evaluation
TD	Test Director
TO	Technical Officer
TOY	Time of Year
TOR	Technical Onsite Representative
TRACAB	Terminal Radar Approach Control in Tower Cab
TRACON	Terminal Radar Approach Control
TRACS	Transportable Radar Analysis Computer System
TSARC	Transportation Systems Acquisition Review Council
Tx/Rx	Transmitter/Receiver

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FIGURE 2. RPBM/RSM RECEIVE SITES

<u>#</u>	<u>IDENT</u>	<u>LOCATION</u>	<u>STATE</u>
01	BGM	BINGHAMTON	NY
02	QYA	BUCKS HARBOR	ME
03	DMN	DEMING	TX
04	QNW	EAGLE PEAK	TX
05	ELM	ELMIRA	NY
06	FYV	FAYETTEVILLE	AR
07	HTW	HUNTINGTON	WV
08	AZO	KALAMAZOO	MI
09	Q09	KING MOUNTAIN	TX
10	LFT	LAFAYETTE	LA
11	LCH	LAKE CHARLES	LA
12	GGG	LONGVIEW	TX
13	MSN	MADISON	WI
14	MNS	MANSFIELD	OH
15	MLU	MONROE	LA
16	QNA	MORALES	TX
17	MKG	MUSKEGON	MI
18	RFD	ROCKFORD	IL
19	RSG	ROCKSPRINGS	TX
20	RME	ROME/GRIFFISS AFB	NY
21	MBS	SAGINAW	MI
22	SIT	SAN ANGELO	TX
23	ACT	WACO	TX

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Appendix 2APPENDIX 2. BEACON LEAPFROG DEPLOYMENT SCHEDULEFIGURE 1. ATCBI-4/5 DONOR/RECEIVE SITES

<u>DONOR SITES</u>					<u>RECEIVE SITES</u>		
#	LID	LOCATION	BI	DEL DATE	LID	LOCATION	
001	AUS	AUSTIN/BAFB	TX 5	04/04/93	SJT	SAN ANGELO	TX
002	MCI	KANSAS CITY	MO 5	04/18/93	ALO	WATERLOO	IA
003	CLEA	CLEVELAND	OH 5	05/01/93	MKG	MUSKEGON	MI
004	LBG	L BEACH/GDN GRV	CA 5	05/08/93	PSP	PALM SPRINGS	CA
005	SATA	SAN ANTONIO	TX 5	05/15/93	LBB	LUBBOCK/REESE AFB	TX
006	SEAA	SEATTLE	WA 4	05/22-93	MSO	MISSOULO	MT
007	STLA	ST LOUIS	MO 5	06/01/93	STL	ST LOUIS	MO
008	NKX	SAN DIEGO/MNAS	CA 4	06/22/93	FAT	FRESNO	CA
009	DFW	DALLAS/FT WORTH	TX 5	06/29/93	PA2	AZLE/DALLAS	TX
010	PDX	PORTLAND	OR 5	07/05/93	DBL	RED TABLE TOP MTN	CO
011	MCO	ORLANDO	FL 5	07/15/93	STT	ST THOMAS	VI
012	MEM	MEMPHIS	TN 5	07/19/93	GSO	GREENSBORO	NC
013	BUF	BUFFALO	NY 5	07/26/93	LFI	HAMPTON/LNGLEY AFB	VA
014	BDL	WINDSOR LOCKS	CT 5	07/30/93	PWM	PORTLAND	ME
015	BAB	MARYSVILLE/BAFB	CA 4	08/03/93	EDW	LANCASTER/EAFB	CA
016	SLCA	SALT LAKE CITY	UT 5	08/17/93	MFR	MEDFORD	OR
017	DTW	DETROIT/ROMULUS	MI 5	08/24/93	PTK	PONTIAC/DETROIT#2	MI
018	BNA	NASHVILLE	TN 5	08/31/93	DAB	DAYTONA BEACH	FL
019	SYR	SYRACUSE	NY 5	09/07/93	CHO	CHARLOTTESVILLE	VA
020	OAK	OAKLAND	CA 4	09/14/93	STK	STOCKTON	CA
021	OFF	OMAHA/OFFUTT AFB	NE 4	09/28/93	NEI	HEBRON	NE
022	ORD	CHICAGO/O'HARE	IL 5	10/29/93	MBS	SAGINAW	MI
023	CVG	COVINGTON/CINCIN	KY 5	10/12/93	TYS	KNOXVILLE	TN
024	ADW	CAMP SPRGS/AAFB	MD 4	10/19/93	HTW	HUNTINGTON	WV
025	NUQ	SAN JOSE/MNAS	CA 4	10/26/93	BFL	BAKERSFIELD	CA
026	PVD	PROVIDENCE/QPT	RI 4	11/02/93	MWH	MOSES LAKE	WA
027	CID	CEDAR RAPIDS	IA 4	11/09/93	COU	COLUMBIA	MO
028	QXM	CHICAGO/TENLY	IL 4	11/16/93	MFD	MANSFIELD	OH
029	MIA	MIAMI	FL 5	11/23/93	MIAA	TAMIAMI	FL
030	MCC	SACREMENTO/McAFB	CA 5	12/06/93	FOT	EUREKA/RAINBOW RDG	CA
031	HOUA	HOUSTON/HOBBY	TX 5	12/13/93	M12	SASCHE/DALLES	TX
032	MSP	MINNEAPOLIS	MN 5	12/19/93	RIC	RICHMOND	VA
033	BUR	BURBANK	CA 4	12/27/93	QJE	APPLE VALLEY	MN
034	IAH	HOUSTON/INT'L	TX 5	01/18/94	LIH	LIHUE	HI
035	DEN	DENVER	CO 5	01/25/94	GGG	LONGVIEW/TYLER	TX
036	BAL	BALTIMORE	MD 5	01/30/94	HIO	HILLSBORO	OR
037	BOS	BOSTON	MA 4	02/01/94	AL6	CHESTER/BOSTON	NH
038	INDA	INDIANAPOLIS	IN 5	02/08/94	IND	INDIANAPOLIS	IN
039	PITA	PITTSBURG	PA 5	02/22/94	QVR	OCEANA	VA
040	LAS	LAS VEGAS	NV 5	02/29/94	QLR	MT SANTA ROSA	GU
041	MSY	NEW ORLEANS/MOIS	LA 5	03/06/94	LFT	LAFAYETTE	LA
042	DAY	DAYTON	OH 5	03/27/94	CPV	COOPERSVILLE	MI
043	JAX	JACKSONVILLE	FL 5	03/27/94	QKJ	JEDBURG	SC
044	PHL	PHILADELPHIA	PA 4	04/10/94	RME	ROME/GRIFFISS AFB	NY
045	PHXA	PHOENIX	AZ 5	04/17/94	QKA	MT KAALA	HI
046	OKCA	OKC/WILL ROGERS	OK 5	04/24/94	QZA	OILTON	TX
047	SDF	LOUISVILLE	KY 5	05/07/94	CTY	CROSS CITY	FL
048	FLL	FT LAUDERDALE	FL 4	05/14/94	GPT	GULFPORT	MS
049	JFK	NEW YORK/JFK	NY 4	05/21/94	BGM	BINGHAMTON	NY

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050	TUS	TUCSON/DMAFB	AZ	4	05/28/94	LSV	L VEGAS/NELLIS AFB	NV
051	ABI	ABILENE	TX	4	06/07/94	ACT	WACO	TX
052	CMH	COLUMBUS	OH	5	06/21/94	QHZ	HORICON	WI
053	SRQ	SARASOTA/BRA	FL	4	06/28/94	AGS	AUGUSTA	GA
054	ROA	ROANOKE	VA	5	07/04/94	P3	BURNS/PINE MTN	OR
055	LAX	LOS ANGELES/ASR4	CA	4	07/11/94	LYH	LYNCHBURG	VA
056	TUL	TULSA	OK	4	07/18/94	AMAA	AMARILLO	TX
057	MKE	MILWAUKEE	WI	5	08/02/94	QWA	WATFORD CITY	ND
058	RDU	RALEIGH/DURHAM	NC	4	08/09/94	FAY	FAYETTEVILLE	NC
059	LAXA	LOS ANGELES/ASR7	CA	4	08/23/94	HIF	OGDEN/HILL AFB	UT
060	TPA	TAMPA	FL	5	09/20/94	PAM	PANAMA CITY/TAFB	FL
061	EWR	NEWARK	NJ	4	09/27/94	ACTY	ATLANTIC CITY	NJ
062	ONT	ONTARIO/MARCH AFB	CA	4	10/04/94	YKM	YAKIMA	WA
063	ALB	ALBANY	NY	4	11/08/94	ELM	EMIRA	NY
064	NZK	CAMP PENDLETON/E	CA	4	11/15/94	MSN	MADISON	WI
065	PNS	PENSACOLA	FL	5	12/12/94	LCH	LAKE CHARLES	LA
066	ISP	ISLIP/MacARTHUR	NY	5	12/19/94		EXTRA	
067	FLX	FALLON	NV	5	12/26/94	QMV	MILL VALLEY	CA
068	LIT	LITTLE ROCK	AR	5	01/03/95	QNW	EAGLE PEAK	TX
069	GTF	GT FALLS/MAFB	MT	4	01/10/95	PUB	PUEBLO	CO
070	GRB	GREENBAY	WI	4	01/17/95	GNV	GAINESVILLE	GA
071	ATL	ATLANTA	GA	4	01/24/95	GSP	GREENVILLE/GREER	SC
072	HPN	WHITE PLAINS	NY	5	01/31/95	QBZ	OSKALOOSA	KS
073	AMA	AMARILLO	TX	5	02/14/95	Q09	KING MOUNTAIN	TX
074	BIL	BILLINGS	MT	5	02/21/95	SEA	SEATTLE/FT LAWTON	WA
075	FAR	FARGO	ND	4	02/28/95	AZO	KALAMAZOO	MI
076	WRB	MACON/WRAFB	GA	4	03/05/95	NSE	WHITING FIELD NAS	FL
077	QAS	L VEGAS/ANGEL PK	NV	4	03/26/95	GRK	ROBERTSON/FT HOOD	TX
078	BAD	SHREVEPORT/BAFB	LA	4	04/02/95	MLU	MONROE	LA
079	GEG	SPOKANE	WA	4	04/09/95	COS	COLORADO SPGS/PET	CO
080	BIS	BISMARCK	ND	5	04/16/95	QWO	LONDON	OH
081	MGE	MARRIETTA/DAFB	GA	4	04/23/95	ZLB	BALBOA	PN
082	QJM	ROCKVILLE	NE	5	04/30/95	M01	DIGGINS	MO
083	TPH	TONOPAH	NV	4	03/06/95	HOP	FT CAMPBELL	KY
084	CRP	CORPUS CHRISTI	TX	4	05/13/95	FYV	FAYETTEVILLE	AR
085	LMT	K FALLS/KENO	OR	5	05/20/95	CPR	CASPER	WY
086	QJB	GETTYSBURG	SD	5	05/27/95	CMI	CHAMPAIGN	IL
087	TRI	BRISTOL/TRI-CIT	TN	5	06/06/95	MGM	MONTGOMERY	AL
088	RBL	RED BLUFF	CA	4	06/20/95		EXTRA	
089	QHB	ST ALBANS	VT	5	07/24/95	QPC	HALEYVILLE	AL
090	QVA	ASHTON	ID	4	08/15-95		EXTRA	
091	JAN	JACKSON	MS	5	08/29/95	P2	SAND SPRINGS	MT
092	BAM	BATTLE MOUNTAIN	NV	4	09/12/95		EXTRA	
093	QCK	CASCADE/BOISE	ID	4	09/26/95		EXTRA	
094	MAF	MIDLAND	TX	5	10/03/95	ROS	ROSWELL	NM
095	DCA	WASH DC/NAT'L	VA	4	10/17/95		EXTRA	
096	QDP	TREVOSE	PA	5	10/22/95	QMI	SPOKANE/MICA PEAK	WA
097	MHT	MANCHESTER	NH	4	10/29/95		EXTRA	
098	TCM	TACOMA/McCAFB	WA	4	11/05/95	ASE	ASPEN	CO
099	ELP	EL PASO	TX	5	11/12/95	FTW	FTW/KELLER	TX
100	HOUE	HOUSTON/EAFB	TX	5	11/19/95	NEW	SLIDELL/N ORLEANS	LA
101	SOA	SENORA	TX	5	11/25/95	ADM	ARBUCKLE	OK
102	CEC	CRESENT CITY	CA	5	11/13/95	NUC	SAN CLEMENTE ISLE	CA

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APPENDIX 3. OUTSIDE TECHNICAL SUPPORT

1. NYMA, INC. Provides broad engineering support for the ATCBI Leapfrog project to include program engineering, field engineering, technical services support, development of the PIP, specifications and other technical documents, as required.
2. RAYTHEON SERVICE COMPANY. Raytheon, under the Technical Services Support Contract, provides field engineering and technical support, performs system and equipment removal, transportation, and installation services, system and equipment OT&E, updating the site as-built drawings, training, and other technical support as required.
3. SYSTEMS ENGINEERING AND INTEGRATION CONTRACTOR. Provides schedule and financial planning for the ATCBI Leapfrog Project in support of the program office.

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APPENDIX 4. BEACON LEAPFROG ATCBI-3 SYSTEM DISPOSAL SITES

<u>#</u>	<u>DATE</u>	<u>IDENT</u>	<u>LOCATION</u>	
01	04/25/93	CLT	CHARLOTTE	NC
02	04/28/93	ALO	WATERLOO	IA
03	05/11/93	MKG	MUSKEGON	MI
04	05/18/93	PSP	PALM SPRINGS	CA
05	06/11/93	STL	ST LOUIS	MO
06	06/11/93	STT	ST THOMAS	VI
07	06/15/93	HAR	HARRISBURG	PA
08	06/18/93	GSO	GREENSBORO	NC
09	07/01/93	MWH	MOSES LAKE	WA
10	07/09/93	LBB	LUBBOCK/REESE AFB	TX
11	07/12/93	ICT	WICHITA	KS
12	08/13/93	EDW	LANCASTER/EDWARDS AFB	CA
13	09/10/93	DAB	DAYTONA BEACH	FL
14	09/24/93	STK	STOCKTON	CA
17	09/30/93	BGR	BANGOR	ME
18	10/15/93	MBS	SAGINAW	MI
19	10/22/93	TYS	KNOXVILLE	TN
20	10/29/93	HTS	HUNTINGTON	WV
21	11/06/93	BFL	BAKERSFIELD	CA
22	11/26/93	MFD	MANSFIELD	OH
23	11/30/93	IAD	CHANTILLY/DC DULLES	VA
24	12/29/93	RIC	RICHMOND	VA
25	01/04/94	CHSA	CHARLESTON	SC
26	01/06/94	QJE	APPLE VALLEY	MN
27	01/11/94	ORF	NORFOLK	VA
28	02/04/94	GGG	LONGVIEW/TYLER	TX
29	02/15/94	BHM	BIRMINGHAM	AL
30	02/18/94	IND	INDIANAPOLIS	IN
31	03/07/94	HIO	HILLSBORO	OR
32	03/13/94	DSM	DES MOINES	IA
33	03/16/94	LFT	LAFAYETTE	LA
34	04/07/94	CPV	COOPERSVILLE	MI
35	04/20/94	RME	ROME/GRIFFISS AFB	NY
36	04/31/94	GCK	GARDEN CITY	KS
37	05/07/94	GRR	GRAND RAPIDS	MI
38	05/31/94	BGM	BINGHAMTON	NY
39	06/17/94	ACT	WACO	TX
40	06/24/94	QPK	PARKER	CO
41	06/31/94	QHZ	HORICON	WI
42	07/08/94	FAY	FAYETTEVILLE	NC
43	07/25/94	TAD	TRINIDAD	CO
44	07/28/94	AMAA	AMARILLO	TX
45	08/16/94	ROC	ROCHESTER	NY
46	08/19/94	AGS	AUGUSTA	GA

47	08/30/94	ELPA	EL PASO/BIGGS AFB	TX
48	09/06/94	SLC	SALT LAKE CITY/FRANCIS PEAK	UT
49	09/13/94	QJC	TYLER	MN
50	10/07/94	ACY	ATLANTIC CITY	NJ
51	10/18/94	RKS	ROCK SPRINGS	WY
52	10/21/94	RSG	ROCK SPRINGS	TX
53	10/25/94	EVV	EVANSVILLE	IN
54	11/01/94	TLH	TALLAHASSEE	FL
55	11/18/94	ELM	ELMIRA	NY
52	11/22/94	LCH	LAKE CHARLES/ASR-8	LA
53	11/31/94	QHN	ASHBURN	GA
54	12/05/94	DLH	DULUTH	MN
55	12/22/94	LCHA	LAKE CHARLES/ARSR-4	LA
56	01/02/95	GJTA	GRAND JUNCTION	CO
57	01/20/95	PUB	PUEBLO	CO
58	01/22/95	QXR	RUSSELLVILLE	AR
59	02/01/95	QYB	BYHALIA/MEMPHIS	MS
60	02/02/95	GSP	GREENVILLE/GREER	SC
61	02/07/95	SBA	SANTA BARBARA	CA
62	03/03/95	SEA	SEATTLE/FT LAWTON	WA
63	03/10/95	AZO	KALAMAZOO	MI
64	03/12/95	SGF	SPRINGFIELD	MO
65	04/02/95	QTZ	LAGRANGE	IN
66	04/12/95	MLU	MONROE	LA
67	04/19/95	COS	COLORADO SPRINGS/PETERSEN FIELD	CO
68	04/26/95	QWO	LONDON	OH
69	05/02/95	ZLB	BALBOA	PN
70	05/11/95	FAT	FRESNO	CA
71	05/30/95	CPR	CASPER	WY
72	06/11/95	CMI	CHAMPAIGN	IL
73	06/13/95	LBF	NORTH PLATTE	NE
74	06/16/95	MGM	MONTGOMERY	AL
75	06/27/95	FSM	FT SMITH	AR
76	07/03/95	CDC	CEDAR CITY	UT
77	07/10/95	GUP	GALLUP	NM
78	07/17/95	ILM	WILMINGTON	NC
79	07/25/95	QOJ	JOELTON/NASHVILLE	TN
80	07/31/95	RFD	ROCKFORD	IL
81	07/31/95	FTW	FT WORTH/KELLER	TX
82	08/03/95	QPC	HALEYVILLE	AL
83	08/25/95	QSI	LOVELL	WY
84	09/02/95	QRM	MAIDEN	NC
85	09/08/95	GPT	GULFPORT	MS
86	09/19/95	QWC	MESA RICA	NM
87	10/10/95	LSK	LUSK	WY

